PERCEPTION OF SPECIAL OLYMPICS COACHES ON SAFETY IN THEIR TRAINING OF THEIR SPECIAL OLYMPICS ATHLETES

By

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DECLARATION

This dissertation has been developed wholly by the author, Ng Kum Loy, in partial fulfillment of Erasmus Mundus Masters in Special Education Needs, 2008-2009 at Roehampton University (London, United Kingdom), Fontys University (Tilburg, The Netherlands) and Charles University (Prague, Czech Republic).

I hereby declare that the dissertation is entirely my own work and that all references have been properly acknowledged. I also declare that this dissertation has not been submitted previously for any higher degree.

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Abstract

A sport coach, besides providing training to improve an athlete's performance in his/her chosen sport, is also tasked for ensuring that the training and/or competition take place in a safe environment. This ability to factor safe practices is a challenge to any sport coach, especially when the people being coached have intellectual disability (ID).

This study aims to explore the perceptions of Special Olympics (SO) sport coaches towards risk factors for injuries and safety issues when they conduct training with their athletes with ID through a self-administered questionnaire and interviews. The six respondents are all practising SO coaches in a SO National Organization with two being beginner coaches and the rest, experienced coaches. The three significant risk factors perceived by these respondents are: (1) Obtaining professional qualifications in sport coaching is very important, (2) Winning a medal is not the most important focus, and (3) Writing down safety plan is not important. It was also found that the coaches' main sources of information on safety practices are from attending SO courses and publications from National Governing Sport Bodies and that these coaches follow a general procedure when handling any injury in their training sessions. In addition, experienced coaches are more intense in their perception of safety issues when compared to beginner coaches.

Recommendations are made to provide theoretical and hands-on experiences to new SO coaches, and continual updating of skills and knowledge of all coaches. Providing real-life situations where acquired skills and knowledge of first-aid could be applied, could be invaluable to increase confidence of the coaches.

Keywords: Special Olympics, sport coaches, perceptions, risk factors, safety.

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Chapter One
introduction

1.0 Introduction

The number of people involved in sport activities (leisure or competitive) is on the rise, with the corresponding increase in sport-related injuries. These injuries range from short-term injuries treatable by first-aid to those that require long-term intensive medical care. Sport injuries are caused by many factors, some are purely accidental and being at the "wrong place at the wrong time" situation and are thus not within human control, while others are preventable if certain safety and risk management procedures are complied.

Sport safety and risk management which are within the control of a responsible coach are usually given due attention by the coach, albeit implicitly, in all training sessions. With the coaches' concern for safety, much risk of potential injuries to athletes can be reduced. Athletes themselves can also take evasive actions when confronted with perceived risk situations during their training sessions or competitions.

For athletes with intellectual disability (hitherto referred as ID), their lower cognitive capacity reduces their capacity to think rationally and understand concepts of safety like appreciating danger or taking evasive actions. Hence, coaches of athletes with ID have to be systematically aware and understand the various risk factors for injuries among their athletes. As coaches usually use tacit knowledge in their planning and execution of their training plans (Wagner, 1993), their plans for safety and risk management of their athletes must be made transparent and visible to ensure safety and reduce risks of injury to athletes, in addition to being made available for immediate reference when an injury to an athlete arises or of use by stand-by coaches.

Simmerman (1997) stated that research on coaching disabled sports is limited and that coaches have to rely on and adapt from existing research on non-disabled athletes. This is more true with regards to sport that cater for specific disability; in this case sport for people with ID. According to Roswal (Email correspondence, Appendix 3):"Although Dr. Damentko and I have written several articles on Special

Olympics, none are related to safety and risk management. Attached is a recent version of the annotated bibliography, "Special Olympics Completed Research Bibliography."" I have gone through the said annotated bibliography and there is no research on safety and risk management. Thus this study is unique. As there is a dearth of studies with regards to risks of injury to athletes with ID, this study aims to fill in the gap by exploring the perceptions of Special Olympics (hitherto referred as SO) sport coaches of athletes with ID on risk factors for injury among their athletes.

1.1 Background of the study

> *"Engagement in sports provides people with unique opportunities to experience personal achievement, social interaction and inclusion, and to learn about and practice the spirit and rules of fair play in human relations, very often in a multicultural context."*
>
> Gudrun Doll-Tepper, President
> International Council of Sport Science
> and Physical Education

The above statement highlights the possible benefits for all persons in partaking in sport activities, whether informal activities or organised competitive activities. These benefits have encouraged a growth in number of people involved actively in sport activities and this has lead to a corresponding increase in incidents of injuries as pointed out by Sharma, Luscombe & Muffulli (2003, p. 255) below:

> *"Physical injury is an inherent risk in sports participation and, to a certain extent, must be considered an inevitable cost of athletic training and competition. However, coaches and parents can minimise the risk of injury by ensuring the proper selection of sporting events, using appropriate equipment, enforcing rules, using safe playing conditions and providing adequate supervision."*

Risk for injury is inherent when one trains in sport activities and competition. Awareness of this risk places the onus of reducing this risk on the coach who has to think about matching sporting events to the capability of an athlete, selection of proper of apparatuses, rules enforcement and constant surveillance of the athletes and their participatory activities. Attention to safety and risk management for a sport coach begins in pre-training, on-going training and post-training sessions.

The same scenario of sport injuries is also happening in sport for people with intellectual disability, if not more as they have lower and limited cognitive capacity to understand concepts of safety and taking evasive actions. Rickard *et al*. (1984 cited in Travis & Sachs, 1991, p. 384) cite an example of this cognitive limitation when they proved that persons with lower intelligence quotient ranges found it challenging to make meanings of the concept 'relaxation'.

Sport coaching is a very complex undertaking requiring skills of a maestro to instruct for skill acquisition, monitor the athletes and organize well-structured activities simultaneously. Apart from these roles, the coach also plays a pivotal role to educate athletes with ID about safety and risk management in the sport activity that the athletes are being coached. Much of what a coach does, especially an experienced one, hinges on his/her experiences and sometimes on gut-feelings. Experienced coaching professionals frequently handle and cope with ambiguous situations which require them to fall back on useful everyday experiences for solutions. Launder (1993, quoted in Nash & Collins, 2006, p. 465) said that "the coach has been called a 'master of the instantaneous response'". Nash and Collins *(Ibid.)* elaborated further how the coaches work by saying their decisions are a result of 'gut feelings', some operate on instinct and these coaches have difficulty articulating the decisions they have made. Nash and Collins (*Ibid.*) quoted Sternberg and Horvath (1999) as saying that this type of knowledge is tacit knowledge, is routinely used and taken for granted. (p.465). These observations indicate that while sport safety and risk management activities are inherent in the roles of sports coaches, they are not usually explicitly written down. In my opinion, this could be one reason why there is so little literature on perceptions of coaches towards risk factors and safety of their athletes when they routinely conduct their training.

SO is an international non-profit organisation dedicated to empowering individuals with intellectual disabilities to become physically fit, productive and respected members of society through sports training and competition (Special Olympics, 2009a). SO offers children and adults with ID year-round training and competition in 30 Olympic-type summer and winter sport that include skiing, horse-riding, floor hockey, bocce, skating, aquatics, badminton, judo, power-lifting and athletics.

Needless to say, this vast array of sport activities involves a large number of coaches and an even larger number of players and athletes, with an inherent high potential risk for injuries. It is, thus, imperative that SO sport coaches have a good knowledge and understanding of risk factors to injury and have the skills and knowledge of sport safety and risk management. These knowledge and skills ought to be embodied in their planning and execution of training sessions for athletes with ID.

Knowing what these coaches perceive to be risk factors to injury of their athletes in their sporting activities will be a crucial step in improving skills for sports safety and risk management; sport coaches, both for non-disabled and people with disabilities will benefit. Ultimately the beneficiaries will be their athletes they coach and sport as a whole.

1.2 Rationale for the Study

People with ID have the same rights to participate in sport activities in a safe environment. Some of the learning characteristics of people with ID as posted on the SO website (Special Olympics, 2009b) are:

- a slower rate of learning and a limited capacity to learn
- certain teaching and coaching strategies are more successful than others
- the techniques of demonstration, physical prompt, and manipulation of body parts are preferred to verbal instruction
- tasks to be learned should be divided into small meaningful steps, presented sequentially and then practiced in total with as little change in the order as possible
- feedback about an athlete's performance should be immediate and specific.

Thus, SO coaches have an immense responsibility to make their instructions simple so that their athletes can benefit positively from these interactions. Special Olympics (2009c) has also pointed out that "*given proper coaching and sufficient practice time, most athletes with intellectual disabilities can successfully compete alongside or against many of their non-disabled peers*".

In the field of sport activities, coaches will be the ones trying to explain relevant concepts using strategies that have been informed by their familiarity with the athletes. When it comes to sport safety and risk management, the role of the coach is pivotal - his/her attitude and coaching philosophy could determine the extent to which factors about safety and risk management will be given prominence in the training or competition. The coach has to ensure the environment is conducive to the participants to concentrate on learning sport or athletic skills. In addition, a coach who is continuously aware of safety needs and their appropriate planning, constantly alert to any situation that could cause a breach of safety and able to make the relevant and appropriate decisions can help to reduce risk factors for injuries to the athletes.

A proper documentation of safety and risk management procedures by sport coaches will enhance the quality of sport activities as the document is a permanent record of the plan which can be communicated to all those involved in the coaching action. Rowley (1993 quoted in Lee, 1993) stresses that "*coaches are usually the first people on the spot when athletes suffer injuries and to whom children and parents turn to for advice on dealing with them.*"

Being first on the spot entails decision-making - that of evaluating the severity of the injury and determining appropriate action(s) to contain and alleviate the situation. Various studies ((for example, Launder, 1993; Sternberg & Horvath, 1999) quoted in Nash and Collins, 2006)) have pointed out that such decisions are informed by the coach's experiences and tacit knowledge. Therefore, with safety documentation, if there is any case of complaint or litigation, then the coach and the organization will not be implicated and thus does not bring disrepute to the organization. Sometimes, the coach could not make it to the training session because of some legitimate reason, then the written safety and risk management plan will be invaluable to the stand-in coach. This document that includes explicit information about contact details, allergies, medications and others is even more vital to the replacement coach if there is an injury to the athlete(s), thus increasing effective communication. It is clear that this document could be the difference between a well-handled incident rather than an escalating crisis.

Parents need to know about the risks of injuries in the sport of their children or youth and what they can do to help prevent injury. Indeed, young athletes of all ages and everyone who works with them, whether they be parents, sport medicine personnel, sport governing bodies, or coaches, need to know answers to questions such as the following: Is the risk of injury greater in some sport activities, or level of activity, than in others? What types of injuries are most common in a given sport? What is the average time lost from injury and what is the risk of permanent impairment? Are some children prone to sports injury? Are some physical, psychological, or sport-related factors associated with an increased risk of injury? Can injury be prevented and if so, how? How effective are the preventive measures that have been implemented? As sport medicine personnel and coaches should be prepared to respond to all these questions, all necessary information towards the answers should be made readily available to them. Providing this information, at least as far as possible, is an important objective of sport injury epidemiology research (National Safe Kids Campaign, 2000, quoted in Caine & Muffulli, 2005).

SO International has put in place certain safety and risk management procedures. Firstly, it mandates all its sport coaches to learn first-aid and cardiopulmonary resuscitation (CPR) on a regular basis. Secondly, it prepares and provides a large collection of materials on sport safety and risk management the SO website (Special Olympics, 2009d). Some examples of these resources include:

- Conducting a Safe Programme which contains safety measures such as checking the field of play for obstacles and checking equipment for quality in terms of appropriateness for the athletes to use
- Prevention of Injury like provision of first aid box
- Immediate Care Skills that covers treatment for abrasions and cramps.

However, in the various Train-the-trainer courses for different sport activities that I have attended or conducted as a certified Regional Trainer for Special Olympics Asia-Pacific since 2004 and a SO National Trainer for Malaysia since 2003, sports safety and risk management matters are usually given a shallow treatment and usually, in a theoretical manner. Occasionally, some safety aspects of a particular

sport are emphasised, for example discouraging athletes from holding the end of a hockey stick above waist-level in the game of Floor Hockey, a game very similar to regular Ice-hockey. It is assumed that coaches "know" what to do, that tacit knowledge gleaned from previous experiences will be sufficient to cope with safety management. Rarely is there a hands-on activity for coaches to experience even a simulated crisis where theory is put into practice. This lack or real-life opportunity to practice know-how and skills on first-aid could be a reason why Miller (1987) reported that: " *the majority (70%) of SO International certified coaches did not feel qualified to train the mentally retarded (ID) during the 8.4 weeks of 3.6 hours of training/coaching per week prior to participation in SO International competition*." (Miller, 1987 quoted in Powers and Putnam, 1997, p.4). In my opinion, this lack of confidence could be more pronounced for beginner or novice SO coaches who are volunteers and who are not working with people with ID except in and during SO activities.

An exploration of what factors SO coaches perceived as risks for injury to their athletes and a comparison of these perceptions between experienced and beginner coaches will provide a more wholesome picture of what sports coaches do with their tacit knowledge and how they cope with safety and risk management concerns. This investigation could also shed some light on sources of knowledge and skills on safety for SO coaches: identifying how these sources of knowledge and skills can lead to improve practices and thus possibly reduce the number and severity of sports injuries.

Most probably the 'spark' that provided me the motivation to choose this area of study was an incident that I witnessed as a Special Olympics official in a ten-pin bowling competition for bowlers with intellectual disability. This athlete was seated quietly, waiting for his turn to be at the assigned lane. He suddenly tipped over in his seat and landed on the floor, face down! Luckily his coach was nearby and was alerted by a fellow coach about the accident. The coach acted calmly: he 'spread' the still immobile athlete in a comfortable position while continuously maintaining verbal communication with the athlete and worried onlookers: he gave confidence to his injured athlete and the concerned people that it is 'normal' and okay. His athlete had just had an epileptic attack and will recover soon. So confident was this coach

about what he was doing and expecting that his athlete will recover soon, that he even left specific instructions for his assistant coach to keep an eye on the athlete while he had to attend to some other matter that required his attention. Of course the face of the athlete was bruised with some places bloodied as some parts of the mouth were injured. I hope to be like this coach or at least find ways to help SO coaches to be prepared for any injury situation: identifying their intensity of perception of risk factors and safety in sports would be a good starting point.

Twomey, Finch, Roediger & Lloyd (2009) summarised succinctly when they said : "*As coaches are critical to the implementation and adoption of sports injury prevention strategies, it is important to understand their attitudes and existing knowledge as determinants of their safety orientated behaviours and that of the players they coach.*"

1.3 Statement of the problem

Sports injuries can cause trauma and suffering to the athletes, and sometimes may have life-long consequences. Lee (1993) describes the possible linkages between these painful experiences and the cause of fears and phobias in the injured athlete. What possibly is more worrying is the tendency for over-generalisation of these traumatic experiences which can then affect the scope of participation in the events or activities in the future. And if athletes, who have cognitive challenges, are traumatised by the injury and generalise this event, then the effort to encourage this athlete back to training will be more challenging to the coach (*Ibid.*).

With the rise in numbers of participants and sports events offered to people with intellectual disabilities, there is always a concern on safety and risk management of these sport activities. Individuals with ID do not always have the capacity to appreciate risks, understand danger and take evasive actions (Goodacre, 2008) and are perceived to be more capable of engaging in simple activities such as sustaining friendships and washing and dressing, but less capable of complex activities such as understanding a national news event or handling emergencies. In addition to the main task of training and coaching the athletes, the task of ensuring a safe environment for these athletes to train and compete in sports inevitably fall

on the shoulders of coaches. Although coaches are generally aware of the main safety issues and general safety precautions, this knowledge tends to be tacit that has been informed by experiences and insight (Nash & Collins, 2006) and most planning of safety and risk management is implicit.

There is very little literature on how coaches of normal athletes factor sport safety and risk management techniques into their routine training sessions. The scenario for literature on similar concerns in coaching of SO athletes with IDs is no better. This study would therefore enlarge the knowledge base of safety and risk management in sport training and competition in general and especially for sports training for people with IDs. The findings of this study could also be used to inform Special Olympics coaches worldwide and may also make a minor contribution to enhance safety and thus help reduce injury to SO athletes in sports training sessions.

1.4 Research Questions

This study seeks to find answers to the following questions:

1) What is the level of awareness (or intensity) of SO coaches' perceptions towards sport safety when they conduct training for their athletes?
2) What are the risk factors for injuries among their athletes identified by SO coaches?
3) What are the sources of knowledge and skills on sport safety of SO coaches?
4) What are the different ways of handling injuries by SO coaches during sport training?
5) Is there any difference in the perception of safety issues between beginner and experienced SO coaches?

1.5 Operational Definitions

The operational definitions of the following terms are used throughout this thesis:

(a) Risk Factors: Any factors which may increase the potential for injury (Micheli, 1986 quoted in Caine & Muffulli, 2005).

(b) *Risk Management*: A method for identifying risks and developing and implementing programs/plans to protect the athletes from sports injury (Special Olympics, 2009d). An effective risk management program consists of the following four basic steps that are part of a continuing process:

- Assess — identify, analyze and prioritize potential risks
- Select methods to prevent loss
- Implement the best methods
- Monitor the results and revise as necessary

(c) *Sport:* Sport means all forms of physical activities which, through casual or organised participation, aim at expressing or improving physical fitness and mental well-being, forming relationships or obtaining results in competitions at all levels (European Sports Charter, 2001 quoted in Sport for Development and Peace, p. 12). Sport, therefore, does not have to be competitive not does it require specialized equipment or rules; sport nclude a variety of physical activities like "*working out, running, boating and dancing.*" (Parks, Quarterman & Thibault, 2007, p. 6). Parks et al. (Ibid) also mentioned that "sport" include all sporting activities (p. 7).

(d) *Sport Injury*: Any tissue damage observed by a healthcare professional during competition or practice and/or a bodily harm an athlete has sustained in a sports related activity that has caused absence from a practice session or competition (Timpka, 2006, p. 736) or a reduction in that activity or a need for medical advice or treatment.

(e) *Individual with Intellectual Disability:* An individual is considered to have intellectual disability if he/she experiences the following three criteria:

- Below average intellectual functioning level (at least two years behind peers)
- Significant limitations exist in two or more adaptive skill areas (American Association on Mental Retardation, 2002). Adaptive skill areas are those daily living skills needed to live, work and play in the community, that include communication, self-care, home living, social skills, leisure, health and safety, self-direction, functional academics, community use and work. A person with

limits in intellectual functioning who does not have limits in adaptive skill areas may not be diagnosed as having intellectual disability.

- The condition manifests itself before the age of 18. Children with intellectual disability grow into adults with intellectual disability.

(f) *Special Olympics*: Special Olympics is an international nonprofit organization dedicated to empowering individuals with intellectual disabilities to become physically fit, productive and respected members of society through sports training and competition. Special Olympics offers children and adults with intellectual disabilities year-round training and competition in 30 Olympic-type summer and winter sports. (Special Olympics (2006a))

(g) *Special Olympics Athletes:* To be eligible for registration with SO and participates in sports training and competition, a person must satisfy the following criteria (Special Olympics (2009e)):

- At least eight years of age (for competition)
- Male or female
- Individuals with intellectual disability

(h) *Special Olympics Coach*: A SO coach is a person registered with SO International and who selects, assesses and provides SO athletes with comprehensive sports training and preparation for competitions and who knows, understands and abides by the rules of the sport being coached as gazette in the 'Special Olympics General Rules and Official Sports Rules' (Special Olympics (2009f)).

- Certified SO Coach: To become a certified SO coach, a volunteer has to fulfill the following criteria: (1) attend a General Orientation course; (2) attend a specific course which covers aspects of coaching individuals IDs; (3) complete a 10-hour coaching of athletes under an experienced coach; and (d) apply for certification through the SO local programme (Special Olympics (2009g)).

Beginner SO coach for this study is someone who has joined SO and has no formal training on coaching SO athletes.

1.6 Summary

In this chapter, the background and rationale motivating this study were discussed. The focus of this study was specified by the research questions. Important concepts like risk factors and sport safety, Special Olympics, Special Olympics coach and athletes, and intellectual disability were given operational definitions to provide more precise references for this study.

Chapter Two
Review of Literature

2.0 Introduction

This section will examine literature that will form the background on the state of knowledge about this study. The literature will cover the following aspects: (1) the increase in sport activities and the corresponding increase in injuries; (2) reasons why injuries or accidents happen; (3) risk factors and sport safety; (4) beginner and experienced coaches; and (5) the role of sport coaches, especially SO coaches in executing their regular training for athletes, with regards to safety.

2.1 Increase in number of participants in sport-related physical activities

Growth in numbers of participants in sport activities

Observations show that the number of people involved in sport activities, whether organised or informal, recreational or competitive, have been on the rise. This increase in sports is reported by Sharma et al. (2003) who claimed that there was a spectacular increase in the number of children taking part in team and individual sports (Sharma, Luscombe & Muffulli, 2003). These statistics quoted from the two studies cited above, give an estimate of the number of persons participating in physical activities and how regularly these persons do physical activities.

There is also a corresponding increase in SO athletes. Požėrienė (2008) reported that since SO started in 1968, the programme progressed to become the biggest and largest provider of opportunities for people with intellectual disabilities to partake in sports training and athletic competition. SO Annual Report (Special Olympics (2009n)) reports that "*Special Olympics continued to grow in 2007, expanding its global reach at an annual rate of 14 percent. By the end of 2007, the movement delivered sports training and competition opportunities to 2,876,626 athletes across the globe. At the current rate, Special Olympics will exceed its 2010 growth goal of serving 3 million individuals with intellectual disabilities before the end of 2008.*" In the same report, it was estimated the growth rate of athletes with intellectual disability is 14%.

2.2 Reasons for growth in number of participants in sports activities

2.2.1 Non-disabled participants

Sharma *et al*. (2003, p. 245) added that "*At a young age, sport is for enjoyment, health and personal development*." Shephard (1984, cited in Sharma, 2003, p. 245) added that "*physical activity plays a significant role in the well-being of a child. A well-designed exercise programme enhances the immediate physical, psychological and intellectual attainments of a child*" and Doll-Pepper reiterated and expanded Shephard's report by saying "*engagement in sport provide people with unique opportunity to experience personal achievement, social interaction and inclusion, and to learn about and practice the spirit and rules of fair play in human relationship, very often in a multicultural context*." (Doll-Pepper, 2004). Finch, Mahoney, Townsend and Zazryn (2003) also reported that taking part in sport related activities has a positive effect on the mental, social and physical health of people staying in rural or outside urban areas (Finch *et al*., 2003). Perhaps the main reason for taking part in sports is contained in a report by World Health Organisation (WHO) which states that:

> *Physical inactivity, (a lack of physical activity) is an independent risk factor for chronic diseases, and overall is estimated to cause 1.9 million deaths globally. Physical activity:*
>
> - *Is a key determinant of energy expenditure, and thus is fundamental to energy balance and weight control.*
> - *Reduces the risk of coronary heart disease and stroke*
> - *Reduces risk of Type II diabetes*
> - *Reduces the risk for colon cancer and breast cancer among women.*
>
> World Health Organisation (2006)

2.2.2 Special Olympics athletes

With more than a million athletes taking part in competitions organised by SO annually on a global scale, the possible positive effect in terms of functional skills amongst the participants will be great (Cratty, 1989, cited in Travis and Sachs, 1991). Travis and Sachs (*Ibid*.) also stated that athletes with intellectual disabilities have much to gain by participating in sports activities and the

experiences gained have helped them to improve their later careers and personal successes, just like many non-disabled sports persons. This statement substantiated an earlier claim by Sherill (1986 cited in Travis & Sachs, 1991) which commented that positive SO sports participation was transferred into their daily living skills like positive social interactions in educational and workplace environment. Travis and Sachs (*Ibid.*) mentioned that the positive effect on athletes with intellectual disabilities is vital for giving them opportunity for self-expression. Additionally, they also emphasised that these benefits are more important to athletes with intellectual disabilities. Vealey (1988 cited in Travis & Sachs, 1991) reaffirmed how important it is for sports experiences to engender individual development of self-esteem, motivation, communication skills and self-reliance. These are the skills athletes with intellectual disabilities gain from SO programme. Požėrienė (2008) further added that the support, awards, opportunities for socialization and the sports activities themselves seem to have positive effect on the athletes and their families. Further more a number of researchers (Farell et al., 2004; Castango, 2001; Dykens, Cohen, 1996; Riggen, Ulrich, 1993, cited in Požėrienė, 2008, p. 69) said that "*SO sport programs participation is associated with improved physical fitness and motor skills as well as increased self-esteem, self-confidence, social competence and positive self-perceptions.*" Probably the most important reason for the number of participants to increase in SO sports training and competition is because "*SO International offers to all individuals with intellectual disabilities the possibility of participating in athletic competition adapted to their needs, in a sport of their choice, based on the Olympic model in terms of organisation and the atmosphere of celebration* "(Songster, 1990, cited in Ninot & Maiano, 2007, p.179). This means that for a particular event, the athletes are divided and subdivided into smaller groups (3 to 8 participants per group or division) where the underpinning principle is to put athletes with comparable abilities within a division. The three-to-eight athletes comprising a division will then compete amongst themselves for the awards (God, Silver, Bronze and the other places are awarded with placement ribbons). This is very different from the eliticism emphasis of normal sports like the Olympic where medals are awarded to the first-three placed winners only.

In summarising, Farrell and Shapiro (Farrell et al., 2004; Shapiro, 2003, cited in Požėrienė, 2008) said that descriptive research showed the similarity of motives between of persons with and without disabilities for taking part in sports but persons with intellectual disabilities have lower IQ and different ways of understanding concepts about ability. Generally, people get involved in sports activities because of health reasons, socialisation, personal gains or just for fun and enjoyment.

2.3 Statistics on sport-related injuries

2.3.1 Non-disabled participants

Sharma et al. (2003, p. 246) quoted the following statistics on injuries:

> *Approximately 3±11% of school children are injured per year while participating in sport. Twice as many boys as girls sustain sports-related injuries (Crompton and Tubbs, 1977; Maffulli and Baxter-Jones, 1995; Schmidt and Hollwarth, 1989; Zaricznyj et al., 1980), although some authors report a similar incidence between the genders (Castiglia, 1995; Sahlin, 1990). Boys, however, still sustain more severe injuries, possibly because they are more aggressive. Elite athletes, however, have lower injury rates than the general sporting populations (Baxter-Jones et al., 1993).*"

Raymond (1999) stated that the most hazardous areas contributing to injuries in schools in United Kingdom includes playground (44.5%), games and physical education (19.8%), gymnasium (8.9%) and the sports field (3.8%): these injuries are related to sports activities and gives a total of approximately 78%. The Child Accident Prevention Trust (CAPT, 1998) reported "*nearly 27,000 under 5s and over 350,000 children aged 5–14 were injured in school accidents in the UK in 1995*" (Raymond, 1999, p. 5). Putting the percentage and the numbers together will produce a staggering figure of children injured while being involved in sports.

2.3.2 Special Olympics athletes

McCormick, Niebuhr & Risser (1990) studied the incidence of injury and illness among 777 SO athletes at a local competition. McCormick *et al.* reported that 3.5% of the athletes received injury/illness care during the games and athletes with Down syndrome are 3.2 times more likely to need medical attention. This study also disclosed that track and field events provided the least amount of time for the activity but the most number of injuries.

Birrer (1994), in his study entitled "The SO: an injury overview", studied 2, 056 athletes at the 1980-1981 New Jersey SO Games and found out that 87 of the athletes needed medical attention. Birrer (*Ibid.*) concluded that the injuries bear resemblance in number and type to ordinary sports events.

The statistics quoted above indicated that injuries happen in sports competition for both non-disabled participants and SO athletes. However, as far as I know, there is little literature about sports-related injuries sustained during regular training of sports participants and SO athletes.

2.4 Reasons why injuries or accidents happen in sport

Sharma et al. (2003) stated that sport is for enjoyment, health and personal reasons for young athletes but when these reasons are impacted with the requirements to excel in competition, these young athletes will spend more time and expend more effort and stay in competition all through the year. Sharma et al. (2003, p. 245) pointed out that "*as an undesired but inevitable consequence, sports-related injuries have increased significantly*".

Bartlett (1999) stated that high standards of competition increases incidences of sports injuries and that contact sports (e.g. soccer, ice-hockey) have more injury-risk than non-contact sports (e.g. athletics, tennis). This is to say that the type of sports is a reason that can increase risk factors.

Finch et al. (2003) recognised that rural communities in Australia, because of poorer health facilities, less trained health-care givers and fewer qualified coaches to deliver and organise sports activities, and poor attitude towards safety, have a higher number of sports-related injuries. This statement is observed to be true when the researcher conducted SO courses in remote areas of Indonesia (Bontang in Kalimantan, and Ujung Pandang in Sulawesi). SO athletes participate in training with whatever resources are available and safety factors are usually compromised: uneven and poorly-maintained playing fields, inappropriate footwear or barefooted are the norms in these remote areas.

Ruchlin (2004) claimed that the advancement of technology may have resulted in the increase in sports-related injuries. Sharma et al. (2003) stated that sport activities inevitably involves risk especially risk to physical injury and further

added that sports training and competition, to a certain extent, physical injury has a built-in risk in the activity.

Onyewadume (2002) studied the fitness profile (some variables examined include body weight, height, body density, Body-mass Index (BMI), skin-folds, push-ups) of 29 Botswana SO athletes and found low fitness level which have implications for injury disposition. Bartlett (1999, p. 58) mentioned that "*a lack of fitness, along with increased body weight, may lead to increased risk of injury." This means that low fitness level could contribute to the risk of being injured.*

Jones and Lake (1996 cited in Gao, Lee & Harrison, 2008) commented that accidents are caused by the combination of a hazard and unsafe conditions. In this same article Thomas (1994) compared similarities of in accidents and concluded that some of the factors that contribute to accidents are: 'bad luck', poor decision-making, under estimation of potential risk factors and over confidence about coach's ability. Gao et al. (*Ibid.*) mentioned that children under a coach's charge must be given warnings about the dangers of misusing equipment. Gao et al. (*Ibid.*) also concluded that, not withstanding 'bad luck', students and coaches can do more to avert accidents.

Normal Accident Theory and Sports Injuries

Ruchlin (2004, p. 50) said that "*Safety problems can be traced to errors and accidents, and we have become acclimated to view these errors and accidents as aberrant (non-typical) developments. Dispelling this belief is the first step in developing a safety culture.*" Perrow (1984 cited in Ruchlin, 2004) stated that accidents are normal and are to be expected and errors are the cause of the problem of safety. Ruchlin (*Ibid.*) further added that "*minimising rather than absolute avoidance is the goal because we cannot anticipate everything that can go wrong in delivering a product.*" In this case, I take "delivering a product" as synonymous to "delivering a service which is sport coaching".

Sports coaches have planned for several defenses against injuries, but accidents happen because of the failures of several of these defenses (Perrow, 1999). Reason (1997, cited in Ruchlin, 2004, p. 51) created the "Swiss cheese" model to illustrate how accidents happen. There are holes in Swiss cheese and when it is cut, the holes are not aligned. Imagine each slice as a sport coach's line of defense

against injuries. When the slices are put together (for example in a training session), there is a remote possibility that the holes in the cheese slices could be aligned momentarily, thus allowing an accident to happen. Reason (*Ibid.*) added that failures could be the result of human errors (for example mistakes, lapse in concentration, violation of procedures) and system, that is, factors inherent in the situation (for example structural designs, management decisions, contact or non-contact sports). Reason (*Ibid.*) pointed out that "*most often the system rather than the person is to blame for the accident*."

Thus the Normal Accident Theory postulates that accidents are not totally preventable and when accidents happen, it is the multiple failures of elements in safety that results in an accident. Sports coaches plan for safety by taking into account the risk factors, persons or system, and then factor these plans into their training sessions. Despite this plan, accidents happen when several factors fail at about the same time resulting in an accident, probably resulting in an injury to the athlete.

Raymond (1999, p. 88) said that: "*The causes of accidents are numerous but understanding why accidents happen is crucial to managing safe practices and reducing risks.*" Thus coaches have to be extra vigilant and give more attention to safety and risk management when they conduct sports training and athletic competition for athletes, particularly athletes with intellectual disabilities. And of course everyone, especially coaches, in my opinion, must heed Murphy's Law which is quoted as "*If anything can go wrong, it will*". As such a coach must take every precaution possible to ensure a safer sports activity.

2.5 Types of Injuries

2.5.1 Types of injuries amongst non-disabled participants of sports

Sharma *et al.* (2003) also indicated that injuries could cover sprains and bruises to death and types of injuries are also related to specific sports. For example, Sharma et al. (*Ibid.*, p. 247) stated that "*spiral fractures of the tibia are the most common fracture in children with skiing injuries* (Ungerholm et al., 1985; Deibert et al., 1998), *and in basketball, ankle injuries are the most common injury seen* (Emerson,

1993)".Fortunately, most of the injuries do not require medical attention (Sharma et al. 2003).

2.5.2 Types of injuries among SO athletes

There is scarce information on this area. Birrer (1994) stated that the injuries suffered by SO athletes during competition were very similar in number and type of injuries as could be found in ordinary sports events.

In my experience, bruises and contusions are the most observed injuries in competition. In training, especially at the initial stages of introducing a new event that requires apparatuses, some SO athletes can inflict self-injury, for example a bowling ball was playfully balanced and dropped on the foot of the SO athlete causing the foot to swell and the injured athlete had to stay out of practice for a few sessions. Fingers have been known to be hurt when an athlete brings two Bocce balls (each ball is made of hard composite material and the size of a 16 pound shot put) together.

It is noteworthy to observe that Sharma et al. (2003) stated that most of the injuries do not warrant medical attention whereas Birrer (1994) reported that 87 out of 2,056 SO athletes needed medical treatment and that the number and type of injuries of SO athletes are alike the normal sport events. Combining Birrer's (*Ibid.*) figure and Sharma et al's (2003) statement, we could say that approximately 4.2% {[(87)/(2 056)]x 100%} of athletes involved in sports competition receiving medical treatment is normal and therefore is not alarming.

2.6 Negative impact of sports injuries on sport participants

Caine and Muffulli (2005, p. 180) pointed out that "*injuries are also a leading cause for the development of osteoarthtritis (OA) in later life. There is evidence that knee and ankle injury, specifically, result in an increased development of OA.*" Thus, the impact of injuries on health is significant as the development of OA is associated with decreased levels of physical activity. Further more, Nixon (1993, p. 190) said "*... does not protect them from the physically, socially, economically, or emotionally debilitating or disabling consequences of chronic pain and serious injuries.*" As

stated previously, Lee (1993) pointed out that sport injuries can cause trauma and suffering to the athletes, and sometimes may have life-long consequences.
Thus sport injuries may have negative consequences for the injured athlete: it is therefore imperative for coaches to be aware of the risk factors inherently present in their coaching session and to take reasonable precautions to reduce, if not eliminate these risk factors.

2.7 Sport coaches' behaviour and how they perform their coaching roles

Horn (2002 cited in Kavussanu et al., 2008) mentioned that coaches' behaviour is a powerful medium of influencing athletes' lives: athletes' performance, behaviour, social and emotional well-being. Nixon (1994, p. 80) conducted a survey on coaches' views about risk, pain and injuries to their athletes since coaches are "*central figures, and may influence athletes' choices about taking risks with their bodies and playing with pain and injuries*." Nixon (*Ibid*.) said that the responses suggest that majority of coaches give considerable support for a culture of "*sacrifice, risk taking, playing hurt, and rejecting limits* (Hughes & Coakley, 1991)". Nixon (*Ibid*. p. 80) quoted Curry (1991) that the coaches' responses indicated that the coaches seemed to contribute to "*normalization of pain and injuries for athletes*". And on another note, Nixon (*Ibid*.) added that the analysis of result showed ambivalence or uncertainty about issues of pain and injury amongst the coaches involved in the study. Finally Nixon (*Ibid*., p. 84) ended by saying that "*risks, pain and injury paradox reminds us, however, that coaches may be caring but still expresses encouragement that influence athletes to take dangerous risks with their bodies*". I had the misfortune of observing a SO coach exhorting and encouraging his athletes to play "rough" and not be cowed by the opponents. The competition became more intense and resulted in expulsion for his player when this player tried to "spear" an opponent with his hockey stick!
Nixon (*Ibid*.) warned that we have to be cautious in interpreting the data: they do not stereotype a sports coach as '*uncompassionate, uncaring, or irresponsible about the welfare of their athletes*'. A coach's perspective, his attitude towards winning in competitive sports, can contribute to his coaching style which could influence

his/her athletes' performance and beliefs: an attitude of taking precautions against injuries would reduce the incidents of injuries amongst the coach's athletes.

It is generally accepted that a sport coach has to handle and cope with a variety of tasks which makes it difficult to define coaching. Launder, Suary and Durand said that "*there has been some endeavour to define coaching, it is broadly accepted that its multifaceted nature makes it difficult to frame a definition*" (Launder, 1994; Suary & Durand, 1998 cited in Hammond & Perrrya, 2005, p. 1700). Hammond and Perrya (*Ibid.*) also quoted Active Australia (2003) as saying that the number of skills of a sports coach would be large and overpowering for the novice. Schembri (1995 cited in Hammond & Perry, 2005, p. 1700) wrote about desirable qualities of a sports coach which included teaching, leadership, strategist, management and organisational skill among others.

A coach bears several responsibilities and one of which is that of providing a safe environment in which to learn. Lee (1993, p. 278) said that "*most parents entrust their children to a person called coach in the expectation that that person would, at the very least, provide a safe environment in which to learn, because children cannot be expected to foresee danger or understand concept of responsibility.*" Goodacre (2008, p. 2) emphasised that "*people with a disability do not always have the capacity to appreciate risks, understand danger and take evasive action.*" Lee (*Ibid*, p. 278) also stated that "*it is immoral to ignore the fact that youngsters may be seriously injured by sport. Some injuries can be avoided if the coach takes the time to consider the risks*". Raymond (1999) mentioned that a person (coach) needs to take precautions about safety when the risk can be foreseen. Raymond (*Ibid.*) also added that generally the coach is responsible for any harm to the athlete when the coach fails to factor duty of care.

Experienced professionals handle and cope with ambiguous situations frequently, situations that require the professionals to fall back on useful everyday experiences for solutions. Wagner (1993 cited in Danzig & Harris,1996) informed us that professionals make use of tacit knowledge, knowledge that helps the professionals to manage the myriad of problems on a daily basis . Wenger (1998) added that coaching requires both the explicit (e.g. language, roles, tools etc) and the implicit (underlying assumptions, tacit conventions etc.). Wenger (1998 cited in Cushion,

2007.) also said that the implicit knowledge, most of which are not expressed, are the obvious practices that are crucial to the effectiveness of a coach.

Stomp (2003), in reference to adult learning principles, explained that experiential learning can be divided into two types of knowledge: codified and tacit. Codified knowledge can be used for decision making as its elements are well structured and integrated, and the meanings of these elements are understood in context. On the other hand, Stomp (2003, p. 157) said that "*Tacit knowledge consists of isolated observations and experiences not yet integrated and connected to our codified knowledge. They seem intuitively important, but puzzling. To make our tacit knowledge explicit, one needs to relate new experiences to existing cognitive structures (codified knowledge). For this we need an outside agent: 'a teacher' or a sounding board*." In my opinion, the scenario or context of a particular situation, in this case a sport situation, provide the "outside agent" for the coach to make the connection between his tacit knowledge of the present scenario and codified knowledge: this connection results in learning which impacts on the decisions to act accordingly.

Zinc (2004) reported that there was no explanation of safety management although the programme, Education Outside the Classroom's (EOTC) main concern was safety management! In my opinion, this omission of concern for safety could be an indication that the authors of EOTC assumed that the teachers will have tacit knowledge about safety factors and will take the necessary precautions to ensure that the children under their care will be protected from injury.

Thus several authors quoted above emphasised the vital role played by implicit knowledge, especially of the tacit kind when coaches performed their duties on the field. And one of the tacit knowledge that coaches apply routinely and second-naturedly could be in the area of sports safety and risk management when they coach athletes with intellectual disability. As Stomp (2003) said that tacit knowledge is "*intuitively important, but puzzling*", I think by making clear sport coaches' tacit knowledge in safety and risk factors management, the situation will become less "puzzling" and more transparent for all persons who have interest in sports safety.

2.8 The Role of SO coaches in terms of Safety and Risk Management

The 'Code of Conduct for SO Coach' ((Special Olympics(2009i)) stressed these points: (1) Respect for others; (2) Ensure a Positive Experience; (3) Act Professionally; (4) Take Responsibility for My Actions; (5) Quality Service to the Athletes; and (6) Health and Safety of Athletes.

The Health and Safety of Athletes is of particular concern to this study and is further elaborated below: As a SO coach:

- I will ensure that the equipment and facilities are safe to use.
- I will ensure that the equipment, rules, training and environment are appropriate for the age and ability of the athletes.
- I will review each athlete's medical form and be aware of any limitations on that athlete's participation noted on that form.
- I will encourage athletes to seek medical advice when required.
- I will maintain the same interest and support toward sick and injured athletes.
- I will allow further participation in training and competition only when appropriate.

This document give details on what a SO coach has to deal with apart from the actual planning and coaching of athletes. This document has to be signed by a SO coach: this indicates the importance attached by SO International on safety of athletes.

It is clear that sports coaches, whether coaching SO athletes or non-SO athletes share a lot of common responsibilities: knowledgeable in terms of the sports being coached and to take appropriate actions to ensure safety during their coaching sessions. This is emphasised by the statement "*Coaches have the ultimate responsibility to reduce the risks of participation for athletes involved in the sport that they are coaching*" (Special Olympics (2009d)).

2.9 Risk factors, sport safety and risk management in sport

Dillon (2006, p. 17) stated two facts about injuries and they are: (1) Injuries do and will occur in sports; and (b) a substantial percentage of these injuries are preventable. Dillon (*Ibid.*, p. 16) quoted Martens (a former sports psychologist and physical education professor and founder of Human Kinetics) as saying "*It's pretty*

obvious that coaches are the individuals with the greatest influence on the athletes, and an uninformed coach is the greatest safety risk to them." The meaning of 'uninformed' coach can taken to mean coaches who are not aware of their roles and responsibilities as explained in section (2.8).

"*Coaches who are not properly trained or who are not sensitive to the particular needs of their athletes only exacerbate the potential for injury.*" (7th Forum of ENSSEE, 2004). From my experience, coaching people with intellectual disability is demanding as it entails breaking down a concept and/or a skill into smaller and smaller specific tasks that can be understood and performed by the athlete. To be able to do this, the coach must have sound theoretical, practical and pedagogical knowledge that he/she has obtained through attending many courses and interacting with the athletes on and off the training ground.

Various authors have identified other safety issues and risk factors. Hergenroeder (1998) suggests that to reduce injury, we can remove 'environmental risks' or changing the sports environment or modifying the equipment used. For example, forbidding certain type of tackle in American football, proper officiating, proper equipment and field/surface conditions, and preseason medical examination for the athletes. Whitaker, Cunningham and Seife (2006) identified the following risk factors in sports: weather, equipment, hydration, footwear, parental pressure, coach pressure and previous injuries.

Proper identification of risk factors in sport activities is vital for safety: by recognising these risk factors the coach will be able to factor them into their planning to ensure a safer activity environment for their athletes.

2.10 Beginner and experienced SO coaches

A study by Lorimer and Jowett (2009) on 60 badminton coaches, with an average 7.5 years (SD±5.81) and an average of 5.19 hour of coaching per week, used these mentioned characteristics as criteria for 'experienced' coaches. De Haan (2008) used 8 years of coaching experiences after completion of formal training or certification as the criterion for "experienced coach". According to my experience and the requirements of SO Coach Education System (Special Olympics 2009g), a novice (very little sport coaching experience) SO coach has to attend a compulsory 2-hr General Orientation Course and acquire skills and knowledge on specific

sports. This will be followed by a supervised experience in sport coaching and the successful coach will be awarded a Level One coaching certificate (or Community coach). Further higher-level involvement in sports organisation and competition apart from the continued coaching will be required to advance to a higher lever certification. I would say that a two-year experience in coaching for a novice coach will suffice him/her to be called an experienced SO coach. Of course beginner (have sport coaching experiences) SO coaches are provided with faster track to certification because of their experiences and knowledge in the particular sport. 'Beginner" is preferred because Lester (2005) defined 'beginner' ahead of 'novice'. Beginner coaches have some general knowledge about coaching which was obtained through school or university-level involvement in sport. Moreover when this study was undertaken, the coaches have at least 4 months of coaching athletes with intellectual disability. Lester (*Ibid.*) described 'beginner' as having some working knowledge of key aspects of practices and 'experienced' coaches as having authoritative knowledge and tacit understanding across area of practice. For this study and my own personal evaluation, two-years of coaching SO athletes with certification from SO can be used as the divide between 'beginner' and 'experienced' coaches.

2.11 Summary

In this chapter, I have tried to show that the growth in sports participation results and a corresponding increase in sports-related injuries, whether it is for the general population of people involved in sports-related activities or in Special Olympics. Literature reviewed showed that sports-related injuries could have negative impact on the injured participant. Sport-related activities involve inherent risks and as a result all participants are at risk of being injured. Sport safety and risk management is a vital aspect for reducing the number and type of sports-related injuries. At the centre, or the interface between potential risk-factors and actual injury, is the role of the coach who has to oversee so many aspects of the training session so that the experiences of his/her athletes are positive ones. Much of the decision-making processes of these coaches are informed by experiences that become invaluable tacit knowledge or "gut-feelings". This study will try to bring to the surface the

perceptions of SO coaches on risk factors identified when they organise training sessions for SO athletes.

Chapter Three
Research Design

3.0 Introduction

This chapter will cover some explanations about research: some definitions of research, qualitative research, techniques and ethical issues involved in this study. It will also include comprehensive explanations about the research method employed in this study: case study, selection of sample, the construction of the data gathering instruments, Likert-scale, the administration of the instrument and how the data were analysed. This chapter will end with a summary of the main points presented in this chapter.

3.1 Philosophical stance for research

2) Cohen, Manion and Morrison (2006, p. 3) stated that "*research is concerned with understanding the world and that this is informed by how we view our world(s), what we take understanding to be, and what we see as the purposes of understanding.*" As such, research on a certain topic of interest can have different orientations and perspectives: positivist, naturalist or critical theory (Cohen et al., 2006). For the purpose of this investigation I will focus on "reality" as constructed by the participants of the research: participants who are directly involved in the coaching of SO athletes; a participant who is a member of the executive committee (hitherto referred to as policy-maker) of the Special Olympics National Programme (hitherto referred to as SONP); and a local expert on intellectual disability. The responses of these participants are important as Walliman (2005) stated that the values and perspectives of the respondents influenced their judgements. This is relativism and knowledge or understanding of reality can be obtained by examining the background of the individual; his/her psychological makeup, social inclinations and history to name a few. This study will be qualitative in nature with the use of some quantitative methods like questionnaire and simple descriptive statistics: mainly arithmetic mean and standard deviation will be employed in data analysis to find answers to research question one which is: What is the level of awareness (or intensity) of SO

coaches' perceptions towards sport safety when they conduct training for their athletes? For research question five, comparison of the means between beginner and experienced SO coaches' perception on safety will be used to highlight the difference. Transcripts of interviews will provide most input to answer the remaining research questions.

3.2 Quantitative and Qualitative Research

Kumar (1999, p. 10) explained that research can be classified as quantitative or qualitative based on the nature of the information sought through the research endeavour and also that the division is judged by the following standards, which are: *"(1) the purpose of the study; (2) how the variables are measured; and (3) how the information is analysed*". For qualitative research Kumar (*Ibid*., p. 10) says it is characterised by *"the purpose being primarily to describe the situation, phenomenon, problem or event; the information is being gathered through the use of variables measured on nominal or ordinal scale; and if the analysis is done to establish variation in the situation, phenomenon or problem without quantifying it*."

Denzin and Lincoln (2000b, cited in Andrews, 2005, p.5) say that for qualitative research, the observer is situated in the environment or context of the study: the study will make the phenomenon being studied visible through a set of interpretive practices dependent on a series of representations of the phenomenon under study, like interviews, field notes, photos etc. In other words, they say that qualitative researchers "*study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them*."

Connelly (2009, p. 31) cited Creswell and Piano-Clark (2007) as saying that "*In mixed methods research designs, researchers use both quantitative and qualitative methods and data in the same study or series of studies*." Robson (2002) also reiterated Connelly's stand by saying that there are several advantages associated when qualitative methods and quantitative methods are combined. In this study, quantitative data were collected using a self-administered questionnaire, and interviews based on semi-structured questions were used to collect text-rich information

It is worthwhile to remember what Kumar (1999, p. 12) said about paradigm the researcher works with: *"s/he should adhere to certain values concerning the control*

of bias, and the maintenance of objectivity in terms of both the research process and the conclusions drawn. It is the application of these values to the process of information gathering, analysis and interpretation that enables it to be called a research process."

I will posit this study to be inclined towards a qualitative study as the major focus is on gauging the intensity of perception of SO coaches towards safety when they conduct training sessions.

3.3 Case Study

Kumar (1999, p. 99) explains that a case study is "*an approach to studying a phenomenon through a thorough analysis of an individual case.*" The U.S. General Accounting Office (1990 cited in Mertens, 2005, pp. 234-235) defined case study methods as, "*a method for learning about a complex instance, based on a comprehensive understanding of that instance obtained by extensive descriptions and analysis of that instance taken as a whole and in its context.*"

Bell (2005) reiterated that case study approach can be appropriate for individual researchers as it provides the opportunity to study in-depth on one aspect of an issue. This is a case study (Stark & Torrance, 2006) and qualitative data will be collected from participants in a local area.

Stake (1994 cited in Cohen et al., 2005) mentioned that there are three types of case studies which are "*intrinsic*", "*instrumental*" and "*collective*". Intrinsic case studies aim at understanding the case being studied whereas instrumental case studies focus on establishing some insight or theory. This study belongs to the third type which relies on a group of people, SO coaches, with the aim of getting answers to their perception of risk factors and safety.

Blaxter, Hughes and Tight (2006, p. 74) adapted Cohen et al. (2000) statements about the advantages of case studies and some of these advantages are: (i) case studies are perceived to have strength in reality as the data are drawn from people's experiences and practices; (ii) these real-life practices and experiences could be connected to actions which provide insights that could contribute to change in practices; and (iii) case studies have the potential to be more persuasive as they are based on subjects' experiences and practices. Blaxter et al. (*Ibid.*, p. 81) also mentioned that case studies are complex and analysis could be difficult as

everything seems to be relevant and advised that the researcher need "*to show connections amongst the various events, variables and outcomes and not lose sight of the whole*." Bell (2005) drew attention to the fact that "*it is difficult to cross-check information*" and that "*others express concern about the possibility of selective reporting and the resulting dangers of distortion*." In reference to generalisability, Denscombe (1998 cited in Bell, 2005, p.10) pointed out that "*the extent to which findings from the case study can be generalized to other examples in the class depends on how far the case study example is similar to others of its type*." SO and her sports coaches share many similarities in the training of SO athletes: SO is a world-wide programme with national programmes subscribing to defined operating policies: for example, the Coach Education System (CES), sports-specific training manuals, rules and regulations of SO competition that help to streamline SO activities throughout the world. SO and SO coaches are unique and this study attempts to identify the perception of participants on safety when they coach SO athletes. The findings of this study could be crucial to SO: it could have effect on how sports activities (the focus of SO) would be conducted in the future.

3.4 Attitudinal measurements (Likert-scale)

The research question focussed on the perceptions of SO sports coaches on risk factors and safety in their regular training sessions. Many risk factors have been identified and these risk factors are considered as various aspects of safety. These aspects or risk factors were then classified into seven issues. This research used a self-administered questionnaire to gauge the SO coaches' perceptions of the seven safety issues.

Brace (2004, p. 78) expressed that:" *respondents must be helped to express their attitudes and describe images, particularly to describe them in a format that we can analyse. The most commonly used approach to measuring attitude is the itemized rating scale*." Brace (*Ibid*., p. 79) further added that " *a rating scale is an interval scale on which respondents are asked to give their answer using a range of evenly space points.....and all have five points representing a gradation from positive to negative*." Three most commonly used rating scales are: Likert scale, semantic differential scale; Stapel scale. (*Ibid*, p. 82). For this study, a five-point Likert-scale technique was used where respondents were presented with series of questions

and statements, and then asked how strongly they agree or disagree with the particular statement.

Kumar (1999, p. 130) advised that: "*Likert-scale does not measure attitude* per se. *It does help to place different respondents in relation to each other in terms ofthe intensity of their attitude towards an issue; it shows the strength of on respondent's view in relation to another*." Moreover Likert-scale is an interval-scale and does not measure "*the absolute intensity of the attitude but simply measures it in relation to another person*." (*Ibid*., p. 60).

The intensity of the coaches' responses to the individual aspects were measured using a 5-point Likert-scale (Agree strongly, Agree, Neither agree nor disagree, Disagree, Strongly disagree). Kumar (1999, p. 128) mentioned that:" *attitudinal scales measure the intensity of respondents' attitudes towards the various aspects of a situation or issue and provide techniques to combine the attitudes towards different aspects into one overall indicator*." An arithmetic mean or average or mean and standard deviation will be determined for each of the seven safety issues. An overall mean and standard deviation for all the seven safety issues will also be computed; this overall mean and standard deviation will be used as an "overall indicator" of the SO coaches' perception of safety in their training of SO athletes. A three-dimensional bar-chart showing the respondents' overall responses will be presented to show the most frequently chosen scale(s).

Brace (2004, p. 87-88) alerted me to be aware of four issues when using Likert-scale, which are: (1) Order effects; (2) Acquiescence; (3) Central tendency; and (4) Pattern answering. Brace (*Ibid*.) explained that: order effects refer to tendency for respondents to be bias to the left on a self-completion scale; acquiescence refers to tendency for respondents to agree rather than disagree; central tendency refers to tendency of respondents preferring not to choose the extremes; and pattern answering refers to tendency for respondents to fall into a routine of selecting positions on the scale. These advice were very useful when I analysed the data and in the discussion of results of analysis.

3.5 Research Design

3.5.1 The Research Questions

The research question of this study is to find out how SO coaches perceived risk factors and safety in their regular sport training sessions involving adults and children with intellectual disabilities. Specifically the study will try to answer the following questions:

1. What is the level of awareness (or intensity) of SO coaches' perceptions towards sport safety when they conduct training for their athletes?
2) What are the risk factors for injuries among their athletes identified by SO coaches?
3) What are the sources of knowledge and skills on sport safety of SO coaches?
4) What are the different ways of handling injuries by SO coaches during sport training?
5) Is there any difference in the level of awareness of risk factors for injuries among athletes between novice and experienced SO coaches?

The chosen paradigm and research questions will provide the basis for determining the process and procedure of data collection and its analysis; these will be described below.

3.5.2. Development of the research instrument

3.5.2.1 Construction of the self-administered questionnaire

The context of the research revolves around sport training and SO: specifically the SO coaches' perspectives on risk factors and safety. The definitions of "risk factor", "sport" and "injury" were the fundamental references for the identification and selection of materials for the construction of the instruments. The contents of the instruments were provided by such diverse documents and books with titles like:(1) Development of a tool to audit the safety policies and practices of community sports club in Australia; (2) Literature reviews on Sport for Development and Peace; (3) Parental values and concerns about participation in physical activity programmes; (4) The daily dozen sport safety checklist; and Ten Commandments of Risk Management in Sports. Safety issues from the field

of medicine, health, fire prevention and articles on safety-issues on risk management were also used. My own knowledge and personal experiences in coaching multi-disciplinary sports like Aquatics, Basketball, Tennis (for non-disabled participants) and Goalball (visual impairment), Floor Hockey, Bocce and Athletics (for IDs) are also sources of information on risk factors in sport safety. Probably most information was gleaned from the SO website dealing with Sports Risk Management (Special Olympics (2009d)). I have identified most of the risk factors as they are quite specific: for example, provision of first-aid box, availability of a functioning telephone that is accessible, checking warranty of equipment used, and having an assistant coach during training sessions. I am also of the opinion that many of the information obtained through interviews might not be that exhaustive given the criteria of time to complete this study: as such I trawled literature to identify as many risk factors as I could. These risk factors were then reexamined and evaluated: those that are related directly or will provide answers to the research questions were shortlisted. The risk factors identified were then categorised into 7 themes or issues. The placement of these risk factors into the categories will enable the respondents to focus on the risk factor in the context of the category. There could be some risk factors that the respondents perceived as important and should be included and are not listed in the questionnaire: this is catered for by having spaces for the respondents to present their ideas. There is also another section for new categories of risk factors for respondents to write their answers.

The reliability of the questionnaire was increased through various efforts. The prototype questionnaire, in English, was pilot-tested on similar participants, and an improved instrument constructed and approved by the tutor to be used for data collection. The approved instrument was then translated into the local language by a professional interpreter conversant in English and the local language. The translated version was presented to two persons involved in SO and who are also conversant in both languages: both gave verbal approval to the translated instrument.

3.5.2.2 Construction of the interview questions

Interview questions were constructed for three types of respondents to provide more details about risk factors and safety practices from (a) coaches, (b) a policy maker (management level), and (c) an expert on intellectual disability. The questions hope to elicit answers that will provide some answers to research questions (3) and (4) which are respectively: "*What are the sources of knowledge and skills on sport safety of SO coaches?*" and "*What are the different ways of handling injuries by SO coaches during sport training.*" The risk factors identified in the self-administered questionnaire and the expected answers obtained from the interview questions should not overlap; the interview questions were tested on similar participants and the interview-questions were redrafted to ensure that the answers elicited from the interviewees will not be a repeat of the risk factors and safety issues identified in the self-administered questionnaire.

The policy-maker's responses provided an "umbrella" for the context of safety policies of the SONP. The responses elicited will be used as a background where the coaches' information given in the interview will be evaluated and also provide information on the provision of a risk management policy at the national level.

The interview-questions focusses on SO coaches' knowledge and experiences on safety. The local expert's comments provided the background information about coaches' capabilities to train their athletes to recognise and take evasive actions about risk factors and safety. The information elicited will provide information for recommendation and implications for chapter six of this study.

(The instrument consisting of the self-administered questionnaire and interview questions are found in Appendix 5a (English) and Appendix 5b (local language).)

3.5.3. Research sample

A letter of introduction and intent was sent to the SONP and consent was given to conduct the study. (Appendix 1). Two meetings were held to discuss the data collection procedures: the initial meeting was held with the President of the

SONP to establish rapport and to explain the procedures and requirements of the study. The President then put forward the proposal to his committee members for further deliberation at the "General Assembly" of the organisation. Participants were identified by the SONP and then invited to take part as research participants. Initially four coaches were identified (as requested) but this was increased to six when better rapport was established between me and the researcher the SONP.

Six SO coaches (2 male and 4 female), with SO sports coaching experiences from 4 months to 20 years and with ages ranging from 36 years to 66 years volunteered to take part in this study. Some do not have sports coaching certificate while some have both sports coaching certificates from SO and also national sports governing bodies. The participants are coaching in SO sports like swimming, table tennis, floor hockey, volleyball and bocce (a game like lawn bowl). A second meeting with the National Director of the organisation was held: the questionnaire printed in the local language was given to the National Director for further comments and approved. Under the Director's suggestion, the local-language version of the questionnaire was sent electronically to the identified respondents. Printed copies were also prepared for all respondents too as there could be difficulty with accessing electronic mails.

Another participant, representing SONP at policy-making level, volunteered to be interviewed. She was one of the founder of the SO national organisation and has been involved with SO for about 19 years. She has been on the executive committee of the national organisation since 2003. She gave answers to the following interview questions:

(1) How do you encourage or insist that your coaches conduct their training in a safe environment?

(2) Do you have policy on this, written or otherwise?

(3) Has there been any serious complaint about coaches when an accident happened? What is the nature of the accident?

(4) What actions are taken when there is complaint of this nature?

(5) What are your plans that will make SO sports activities more safe?

(6) Any other comments on safety on sport training?

Marie Černá (Cerna, Personal Communication, (2009), Appendix 2c) was identified as the expert on intellectual disabilities due to her association with Charles University in Prague and especially because of her current active involvement in activities for people with developmental disabilities which include people with intellectual disabilities. Professor Marie Černá is also involved in sports coaching of athletes with intellectual disabilities and has strong relationship with the SONP. Professor Marie Černá's answer gave much information to the following questions:

(1) What can coaches do to ensure that athletes learn to recognize and take evasive actions when they(athletes) meet risk factors?

(2) Practical suggestions for coaches on how to teach safety to the athletes.

3.5.4 Data Collection

3.5.4.1 Self-administered questionnaire

The 5 respondents answered the printed copies of the questionnaire and submitted to the National Director of the SONP. One respondent (R6) answered through the electronic copy of the questionnaire and submitted to the researcher through email. This was the instruction given by the National Director. Questions from respondents pertaining to items in the self-administered questionnaire were dealt with prior to the interview proper. All items were answered through this method of providing more information or explanation on question(s) raised by the respondents that were interviewed. For the respondents who were not interviewed, any item that was not answered is clarified and responses obtained through informal meeting with the respondents concerned. The responses were then tabulated using Microsoft Excel (Appendix 4). The data were entered according to the coding specified, that is, '5" for 'Strongly agree' to '1' for 'Disagree strongly'. The data entered are double-checked through cross-checking method of finding totals for each respondent and for each risk-factor and also each issue. Then the data was 'protected', so that the original data cannot be changed without 'unprotecting' the data. Mean and standard deviation were then calculated; the answers obtained were cross-checked again for

accuracy. Then these data were also 'protected'. All the calculations were reduced to two decimal places.

3.5.4.2 Interviews and transcripts

The interview was conducted after the participants had finished answering the self-administered questionnaire. Essentially, a main question was posed to the participant who would then recount an incident where he/she was a participant or observer of a sports-injury situation. The content of the first question focussed on safety and risk management activities; respondent described (real or imagined) the sequences of actions or steps taken when an injury occur during their training session. The second question required the respondent to relate the sources of their knowledge on sports safety. The researcher was sitting beside the interviewer, manning the audio taping equipment which was a Sony Handycam DCR-SX40E.

The following procedure was observed throughout the interview: the question in the local language was posed by the interviewer and the answers in the native language were taped. The interviewer, who incidentally was the translator of the instrument, controlled the interview process, taking down notes and stopping occasionally to seek clarification from the respondent. She then translated the whole conversation that had transpired into English: she spoke directly into the audio-recording device. When she had finished with the translation of the section, she then continued from where the conversation just ended by repeating the same sequence of listening, taking notes and translating until the whole interview was complete. Each interview session took less than twenty minutes which is within the advice put forward by Robson (2002).

To control some interviewer bias, and to make the interviewing more reliable, the translator had surfed the website of Special Olympics during the initial translation of the questionnaire. More explanation on SO was given by the researcher when she asked for certain clarification about SO. She also has a strong sports and translation background as she works for a sports organisation that "imports" foreign players into their teams; these teams are involved in local, national and international competition.

Also prior to the interview she witnessed a sports training session conducted by two SO coaches: the athletes were all with intellectual disability. Being the translator and interviewer has strong points: she was aware of the intent of each question and did not alter the sense or meaning of each question. This was done by verifying with the researcher ~~me~~. The interviewer was also comfortable with the questions as indicated by the smooth process of the interview: the interview was conducted according to the protocol established prior to the actual interview. This also indicated that "the wording of the questions is of good standard." (Brace, 2004, p. 4). Thus, it can be concluded that the interviewer is well-informed about sports, SO and coaching activities as well as being a well-practised translator for English and the local language. This is an asset for the translation of the instrument and the conduct of the interview.

The interview for coaches and policy maker was conducted in a comfortable place that was very conducive for interview and audio-taping: comfort has been identified by Brace (2004) as a factor that will reduce inattention of the respondents.

Robson (2002) suggested that a one-hour tape takes 10 hours to transcribe. This was good advice to follow due to the shortage of time to complete this study: the number of interviewees and the number of questions per interviewee must necessarily be manageable for the completion of the study. Information from this interview will provide a better picture and also coherence to the focus of the study. Proper planning of time usage is crucial for this study to be completed successfully.

The taped interviews were transcribed *ad verbatim* by me and are displayed in Appendix 2a (coaches); Appendix 2b for the policy-maker.

Some of the items in the self-administered questionnaire were left blank by some respondents, for example age: when this happened, the researcher ~~I~~ reestablished contact by visiting the said respondent to determine whether the answer to this item was deliberately omitted (sensitive or personal). The researcher ~~I~~ had to respect the respondent's right not to answer (Brace, 2004). This no-response could be an indicator of ambiguity or that the respondents could not understand the question. (*Ibid.*, 2004). Luckily, all the respondents, when approached for clarification,

were able to provide the necessary answers. Because of such effort, all the items in the self-administered questionnaire were answered by the respondents. The official of the SONP and me ensured that the environment for conducting data collection was reasonably comfortable for both participants and interviewer: the four interviews (four coaches who answered the self-administered questionnaire) were conducted in a quiet, well-ventilated and well-lighted area. Robson (1993, p. 227) said: "Self-administered questionnaire lend themselves well to be used in combination with other methods, in a multi-method approach." Robson (*Ibid.*, p. 228) further added that "the use of multiple questions related to beliefs or attitude can best be attacked by the construction of appropriate scales." I found this quotation gave me the confidence to pursue this study along the lines as suggested by Robson (*Ibid.*)

3.5.5 Data analysis

Two different methods of data collection were used in this research: self-administered questionnaire for SO sport coaches, and interviews for SO sport coaches, SO policy maker and a local expert on intellectual disability. Data collected by the self-administered questionnaire were displayed in tables, one table for each safety issue and their respective risk factors (seven issues all together).

~~I have~~ chosen mean or average to estimate the intensity of the respondents' perceptions of each risk factor, each safety issue and the overall perception of safety in training. The mean is determined by using Microsoft Excel. The calculation for each mean is shown in the analysis of the data in Chapter 4. ~~I am~~ aware that by using mean, there could be "*some loss of information when we reduce complexity and obliterating uniqueness.*" (Tal, 2001, p. 49). Tal (*Ibid.*) also warned that the mean is sensitive to extreme values. Tal (*Ibid.*) further added that mean does not tell us about how the data are spread out. To give an estimate of the spread of the data, Jaisingh (2005, p. 56) says that "*the variance and standard deviation are the most common and useful measures of variability. Both provide information about how the data vary about the mean.*" The calculation of the standard deviation for each safety issue, the intensity of each respondent's perception to all safety issues as well as the overall intensity of

perception is shown in the analysis of data in Chapter 4. Standard deviation will be computed and used during analysis of data as the unit for standard deviation (square root of the variance) is the same as the data. Jaisingh (*Ibid.*) also warned that the standard deviation is also influenced by extreme values. The mean and standard deviation will therefore give a better picture of the average and the variability of each data set.

Apart from these seven tables (each table for one safety issue), more tables were constructed to highlight some observations which would be used for discussion and provide answers to the research questions. For example Table 8 shows a summary of respondents' average responses to each safety aspect, and in Table 9, the mean of beginner SO coaches and experienced SO coaches are compiled to find answer to research question number 5.

"*Data display is important. The unwieldy mass of information…the mind prefers to simplify complex information into patters and easily understood configurations*" says Walliman (2005, p. 310). Walliman (*Ibid.*, p. 314) also explains that:" *graphical methods of data display and analysis can large overcome problems of the writer, as well as the final reader, browsing backwards and forwards through the masses of text; and are also useful for exploring and describing as well as explaining phenomena*." ~~I~~ the researcher hopes the graphical display will make it easier for readers to follow the explanations and arguments that I put forward in this study.

Data from interviews were transcribed and then analysed according to the intent of each interview question. The information from six coaches was examined for patterns, and insights into their perceptions of safety practices. Transcripts from the policy-maker and local expert on intellectual disability were also examined: their answers were used as references on coaches' safety practices.

Several vignettes, based on participants responses, will be used to emphasise relevant issues on safety. Walliman (*Ibid.*, p. 314) has defined a vignette as:" *a short, contextually rich narrative story that is used to encapsulate a typical event or attitude in a straightforward, direct way. It results in a vivid, compelling persuasive interpretation of an issue, an abstraction rather than a representation of an original event*." Analysing qualitative data has some inherent qualities which ~~I~~ the researcher has to internalise. Nisbett and Watt (as cited in Cohen et al., 2005)

have specifically mentioned the following that the researcher has ~~I have~~ to be wary of: (1) *Journalism* which means the tendency for the researcher to pay less attention on some features of the case but instead focus on only the important ones; (2) *Selective reporting* is the tendency for the researcher to choose only instances or information that lend support to his findings; and (3) *Blandness* which emphasises on taking note of what respondents agree on and not which they disagree.

3.6 Some ethical considerations

Gray (2009, p. 58) stated that "*the ethics of research concern the appropriateness of the researcher's behaviour in relation to the subjects of the research or those who are affected by it.*" This research deals with sports coaches and their perceptions on safety: ethical issues inevitably arose at the planning, implementing and reporting stages of the study. Here, the researcher ~~I~~ would like to focus on some of the ethical issues that I came across and how I factored them into the study.

3.6.1 Participants

Issues on confidentiality and anonymity of participants, right to withdraw, being a willing participant, and thanking the participants for their support were all built into the questionnaire (Appendix 5). Verbally thanking the interviewees were also tendered and small gifts of appreciation were presented too. A draft copy of this report will be presented to the SONP for review: this is to ensure that '*no part of the report will create a negative image*' of the SONP (Appendix 1). This is crucial as such an action will create trust and better relationship between the SONP and me and also ensure that any further investigation involving Erasmus Mundus SEN students will be received with confidence.

3.6.2 Terminologies

There are a number of terms used to describe people who provided data in this study, such as respondents or interviewees. But the researcher ~~I~~ would like to declare that these people are all participants in this research, implying that this study "*was carried out in conjunction with them.*" (Oliver, 2003, p. 5). Their participation is crucial to the

success of the study, that is finding out their perceptions that will answer the research questions.

SO International (Special Olympics 2009j), under the heading of Special Olympics and the R-Word (R for retardation) – Promoting Acceptance and Inclusion, the words "*people with intellectual disabilities*" is regularly used.

Oliver (1992) wrote: "*...both Booth and Söder constantly refer to disabled people as people with disabilities. This is a linguistic attempt to deny the reality of disability. Disabled people are people first who just happen to have a disability and one which disabled people have rejected. We know that we do not just happen to have a disability or that we are people first; our disabilities are essential parts of self, to be affirmed and celebrated, not denied or relegated to an appendage; and as such, we demand to be called disabled people.*" In this study the preferred words will be "people with disabilities" as it is the current and accepted terminology used in SO and its use has no implications of the nature stated in Oliver's (*Ibid.*) article.

3.6.3 Negotiating access, support and acceptance

"*Researcher's agenda is important; and the access issue is essentially persuading people to let you in. If you are clear about your intentions, perhaps with pretty tight, pre-structured, design then the task is probably easier initially, in that you give them a good indication of what they are letting themselves in for*" (Bell, 2005, p. 295) has been helpful for me after making the initial contact with the SONP. The document explaining the intent, the process and procedures and especially the benefit of the findings to the national programme, and to SO worldwide, was submitted to the national organisation, through electronic medium. (Appendix1). Permission to conduct the study was given and the schedule for administering the self-administered questionnaire and interviews were negotiated and mutually agreed. This was important as the interview required the presence of the translator, and the schedule has to cater for all the parties concerned: the interviewer, interviewees, availability of venue and me. The interviews were carried out successfully as planned. Another probable reason for gaining consent to carry out the study was that the researcher ~~I am~~ also a SO trainer and coach and is thus well-versed in the SO activities: there was a feeling of *spirit de corps* between me, the research topic and the participants. This is pointed out by Stebbins (1987 cited in Robson, 1993, p. 227)

who wrote about "'fitting in', that you need to 'have enough knowledge about the setting or persons you wish to study to appear competent to do so.'" Robson (1993, p. 301) also offered the following advice that I operationalised:"*don't just disappear at the end: make sure that they know you are going. Honour your commitments and the implication for others intending to involve the same respondents in future studies.*" ~~I have~~ the researcher has been observing and interacting with the SO coaches and their athletes after the interview to show that I am really interested in SO activities. Small tokens of appreciation were given (different from the gifts given immediately after the interviews) to the coaches on the last day of interaction.

3.6.4 Some responsibilities of a researcher

Oliver (2003, p. 16) highlighted the following qualities of a researcher with regards to ethics in research, which ~~I find~~ the researcher finds useful and underpins this study: a researcher has "*responsibilities to fellow researchers, respondents, the public and the academic community.....brings with it certain assumptions about behavioural norms. These may include values such as truth-telling, accuracy of reporting findings, trying to make results understandable, and being honest about both the successes and failings of a research project.*" These qualities are infused in all areas of this investigation.

3.7 Limitations to this study

The sample for this study is non-random but purposive and a convenient sample too. The participants were selected by the SONP on the basis of logistics; for example, the coaches' busy schedule, the traveling and costs in time and money, and the adjustments to existing schedules of all participants. As Buchanan *et al.* (1988 cited in Robson, 1993, p. 296) stated that:" ...*in real world enquiry, the contest between what is theoretically desirable and practically possible must be won by the practical.*" And most of the decisions and subsequent arrangement are based on pragmatic reasons. As such the generalisability of the findings will be limited to the local programme or the national programme only.

Although ~~I~~ the researcher tried to cope with language-issue by effecting strategies like selecting a translator that has strong attributes that will reduce weaknesses in translation and

communication, nevertheless, there were still some problems in trying to get the 'perfect' questionnaire. Apart from the approval and positive comments by readers of the questionnaire, some back-translation was done to ensure better reliability of the instruments. There is a heavy dependence on the translator's choice of words for translating the interviews and ~~I~~ the researcher could have missed out on subtle meanings as used by the interviewees. However, most of the major problems with languages were overcome by the excellent support given my tutor and staff at the university and I was able to carry out the study successfully.

Although ~~I~~ the researcher has identified 57 risk factors, ~~I am~~ the researcher is sure there are other risk factors that ~~I~~ the researcher have not been able to capture. One of these risk factors was identified by a respondent; this risk factor is "personal hygiene' which is especially important for aquatics. These 57 risk factors were then categorised into seven safety issues. Some risk factors could be placed into several categories such as 'hygiene and cleanliness" could be placed in issues under Parents or Coaches. The risk factors in this study are thus not exhaustive: their selection and categorisation were very much influenced by my experiences and knowledge. Nevertheless, the answers given by respondents did not indicate new risk factors apart from 'personal hygiene'.

As with all qualitative method, the ability to interpret the data is very much subjective: how the data are interpreted depends on the aims of the study, the type of data and on my experiences and knowledge. Despite this weakness ~~I~~ the researcher has have tried to comply with the professional standards and code of ethics of a social researcher through this research process.

3.8 Summary

This chapter covers my philosophical position, and the choice of a qualitative research that employs both qualitative and quantitative methods of collecting data. It also details a case study approach and the use of a 5-point Likert scale to measure the intensity of respondents' perception to risk factors and safety issues. Also discussed in detail was the research design for this study: the development of the research instrument, selection of research sample, limitations of the study, data collection and its analysis, and it ends with a discussion on some ethical issues related to this research.

Chapter Four
Analysis of Data

4.0 Introduction

Raw data collected from self-administered questionnaires and interviews will be examined and anlaysed to provide answers to the research questions. The first section deals with data gathered from self-administered questionnaire. Most of the data from self-administered questionnaire are tabulated; means and standard deviations calculated to provide respondents' perceptions of the risk factors and safety issues being studied in this investigation. The second section of this chapter will cover transcripts of interviews which will be examined to provide further information that will answer the research questions.

4.1 General demographic of respondents

Respond-ents	Type(s) of SO sport being coached	Length of time in SO coaching	Number of hours per week of coaching	Certification SO and/or National Governing Sport Bodies (NGSB)	Category of SO coach (Beginner or Experienced)
R1	Bocce	1 year	2	None	Beginner
R2	Swimming	4 months	2	None	Beginner
R3	Swimming Bocce, Table-tennis	13 years	2	SO, NGB	Experienced
R4	Volleyball-unified, Floor Hockey - unified	20 years	4	SO, NGB	Experienced
R5	Swimming	14 years	1	SO	Experienced
R6	Swimming Athletics	17 years	2	SO, NGB	Experienced

Table A: General demographic data of the respondents to self-administered Questionnaire.

The analysis of the perceptions was done by assigning a weighting – a numerical value – to the responses. Since the statements are positive, the response indicating the most favourable attitude is given the highest score of '5', and a '1' to the least favourable attitude. In this study, '5' is for "Strongly agree' and '1' is for 'Strongly disagree'.

The risk factors, as aspects of safety, were categorised into seven issues of safety and how the participants perceived these risk factors are tabulated in the tables below, using the numerical values as described above.

4.2 Mean and standard deviation

Mean was calculated for each aspect and respondents' responses to each aspect, and also the overall perception of the aspects in each issue. The calculation of each mean is indicated under each issue. The mean will be used as an indicator of the intensity of the perception towards each aspect and each issue. The assigned ranges (Table A) are the lower and upper limits of the interval scale (correct to 2 decimal places). Standard deviation will be calculated for each safety issue and the overall perception of safety, and this statistic (σ) will give an indication of the spread of the responses.

Range of means	Descriptions
Less than 1.50	Strongly disagree
From 1.50 to less than 2.50	Disagree
From 2.50 to less than 3.50	Neither agree nor disagree
From 3.50 to less than 4.50	Agree
From 4.50 to 5.00	Strongly agree

Table B: Assigned limits of means and their descriptions

Formula for standard deviation (σ)

Standard deviation (σ) will be computed by using the formula:

$$\sigma = \sqrt{\frac{\sum(\bar{x} - x)^2}{n - 1}}$$

where σ is the statistical symbol for sample standard deviation,

$\bar{x}$ is the mean of the set of data
x is the datum (score)
Σ is the summation
and n is the number of data (scores).

(Source: Tal, J., 2001, p. 79)

Legend for Tables:

- R1, R2, R3, R4, R5, R6 = respondents
- Unified = combining SO athletes and non-SO athletes

4.3 Data from self-administered questionnaire

The self-administered questionnaire contributed quantitative data and are tabulated according to the seven safety issues being studied.

4.3.1 General Safety Plan (Issue 1)

Table 1: Participants' responses to aspects of 'General Safety Plan'

Issue 1: Aspects	Respondents						Total Score	Mean Score
	R1	R2	R3	R4	R5	R6		
I plan for the safety of my athletes when I conduct my training	4	5	4	5	5	5	28	4.67
I write down this safety plan	1	2	2	3	2	4	14	2.33
My safety plan will have to be more detailed as my athletes have lower cognitive ability	3	3	3	3	3	4	19	3.17
There is a high coach-athlete ratio	4	4	4	4	4	5	25	4.17
Every personnel involved in the training will be given a safety plan	4	4	4	5	4	5	26	4.33
I always have a back-up plan	4	4	4	4	4	4	24	4.00
Total score of Participants	20	22	21	24	22	27	136	-
Mean Score of Participants	3.33	3.67	3.50	4.00	3.67	4.50	-	3.78

4.3.1.2 Calculation of mean for Issue 1

Total score = 136
Number of aspects = 6
Number of participants = 6
Mean = (136)÷(6x6) = 3.78 (correct to 2 decimal places)

4.3.1.2 Calculation of standard deviation for Issue 1:

Mean = 3.78
n = 36
σ = 0.96 (correct to 2 decimal places)

4.3.1.3 Analysis of "General Safety Plan"

From Table 1, the coaches generally agree strongly that they make plans for their athletes' safety for the training sessions. They agree that their safety plan has to have more details as their athletes have lower cognitive ability, that there should be a more coaches to athletes ratio, that all people involved in training must be given a safety plan and that they have a second plan just in case the original plan cannot be implemented. The coaches do not agree that they should write down their safety plan.

The overall mean of 3.78 for issue of General Safety Plan indicate that the coaches generally agree that their general safety plan is important when they conduct their training. The standard deviation for General Safety Plan indicated that the spread of the scores is wide. Both the mean and the standard deviation for Issue 1 are affected by the low scores for the aspect "I write down this safety plan."

4.3.2 Field of Play (Issue 2)

Table 2: Participants' responses to aspects of "Field of play"

Issue 2: Aspects	Respondents						Total score	Mean score
	R1	R2	R3	R4	R5	R6		
Check the playing surface for unevenness	4	4	4	5	4	5	26	4.33
Ensure that the playing surface for activity is clean, safe and dry	4	4	4	5	4	5	26	4.33
Ensure that all boundaries for activity are clearly marked	4	4	4	5	4	4	25	4.17
Check that the immediate area surrounding the playing surface is clear of obstructions	4	4	4	5	4	5	26	4.33
If the training is held indoor, ensure that there is proper ventilation and lighting	5	4	5	4	4	5	27	4.50
Total score of Participants	21	20	21	24	20	24	130	-
Mean score of respondents	4.20	4.00	4.20	4.80	4.00	4.80	-	4.33

4.3.2.1 Calculation of mean for Issue 2:

Total score = 130
Number of aspects = 5
Number of participants = 6
Mean = (130) ÷ (6x5) = 4.33 (correct to 2 decimal places)

4.3.2.2 Calculation of standard deviation for Issue 2:

Mean = 4.33
n = 30
σ = 0.48 (correct to 2 decimal places)

4.3.2.3 Analysis of "Field of Play"

From Table 2, respondents agreed strongly that lighting and proper ventilation are important risk factors if the training is done indoor. Respondents agreed that they should make sure that the place for training is safe in terms of making sure that the playing surface is even, clean and dry, clear of obstructions.

Four respondents agreed and two respondents strongly agreed that the risk factors identified are important in planning for safety when they conduct their training.

The mean for Issue 2 is 4.33 and its standard deviation is 0.48. These two statistics indicate that generally all respondents agreed that "Field of Play" is a safety issue.

4.3.3 Facilities and Venue (Issue 3)

Table 3: Participants' responses to aspects of "Facilities and Venue"

Issue 3: Aspects	Respondents						Total score	Mean score
	R1	R2	R3	R4	R5	R6		
There is a proper changing area for male and female athletes	4	4	4	4	4	4	24	4.00
There is proper storage area for athletes' personal belongings	4	4	4	4	4	4	24	4.00
There is easy access to toilets	4	4	4	5	4	5	26	4.33
Know where the emergency exits are (indoor training facility)	4	4	4	5	3	5	24	4.00
Check access to a working telephone	4	3	4	4	4	5	24	4.00
Place for training is easily accessible by athletes	4	4	4	4	4	4	24	4.00
Check that the place of activity is accessible by ambulance	4	4	4	4	4	5	25	4.17
Check out the rules and regulations on the use of the venue for the activity	4	4	4	5	4	5	26	4.33
There is a suitable first-aid treatment area	4	4	4	4	4	5	25	4.17
Total score of Participants	36	35	36	39	34	42	222	-
Mean score of respondents	4.00	3.89	4.00	4.33	3.78	4.62	-	4.11

4.3.3.1 Calculation of mean for Issue 3:

Total score = 222
Number of aspects = 9
Number of participants = 6
Mean = (222) ÷ (6x9) = 4.11 (correct to 2 decimal places)

4.3.3.2 Calculation of standard deviation for Issue 3:

Mean = 4.11
n = 54
σ = 0.50 (correct to 2 decimal places)

4.3.3.3 Analysis of "Facilities and Venue"

From Table 3, the respondents agreed that; there should be appropriate changing rooms for male and female athletes; storage for personal belongings be available; they must be aware of where the emergency exits are; ensure that a functioning telephone is accessible; the place for training is accessible by athletes and ambulance, and that there is a proper place for first-aid treatment; and that they have to know the rules and regulations pertaining to the use of the facilities and venue.

Five respondents agreed and R6 strongly agreed that Facilities and Venue is a safety issue when conducting their training with athletes.

The mean and standard deviation for Facilities and Venue are respectively 4.11 and 0.50. Thus the respondents agreed generally that the factors identified are risk factors under "Facilities and Venue" when they conduct their training.

4.3.4 Sport Equipment (Issue 4)

Table 4: Participants' responses to aspects of "Sport Equipment"

Issue 4: Aspects	Respondents						Total score	Mean score
	R1	R2	R3	R4	R5	R6		
Equipment used for the activity is sufficient in number and well-maintained	4	5	4	4	5	5	27	4.50
The equipment used fits the athletes properly	4	5	4	4	5	5	27	4.50
The equipment used is appropriate for the athlete	4	5	4	5	5	5	28	4.67
The athletes are taught the proper use of the equipment	4	5	4	5	5	5	28	4.67
The proper use of the equipment is enforced during the training	4	5	4	5	5	5	28	4.67
Athletes are appropriately attired	4	4	4	4	5	5	26	4.33
The warranty of the equipment is checked	4	4	4	3	2	5	22	3.67
Total score of Participants	28	33	28	30	32	35	186	-
Mean score of respondents	4.00	4.71	4.00	4.29	4.57	5.00	-	4.43

4.3.4.1 Calculation of mean for Issue 4:

Total score = 186
Number of aspects = 7
Number of participants = 6
Mean = (186) ÷ (6x7) = 4.43 (correct to 2 decimal places)

4.3.4.2 Calculation of standard deviation for Issue 4:

Mean = 4.43
n = 42
σ = 0.67 (correct to 2 decimal places)

4.3.4.3 Analysis of "Sport Equipment"

From Table 4, the respondents have agreed strongly that the following aspects are risk factors: (1) providing sufficient and well-maintained equipment; (2) the equipment is matched with athletes' physical size and ability; (3) enforcing the proper use of the equipment. The respondents agreed that the warranty of the equipment be checked as it is a risk factor.

R2, R5 and R6 strongly agreed whereas R1, R3 and R4 agreed that the factors are risk factors identified under "Sport Equipment". In fact R6 totally agreed with all the risk factors.

The mean of 3.67 for risk factor about checking warranty of the equipment is puzzling for me; R4 is unsure whereas R5 disagree that checking the warranty of equipment is a precautionary step to prevent injury. Both R4 and R5 are experienced SO coaches.

The mean for Sport equipment is 4.43: this suggests that the all respondents agreed that all the factors are risk factors for Sport Equipment. The standard deviation of 0.67 supports this statement too.

4.3.5 Appropriate Assessment of Athletes' Readiness' (Issue 5)

Table 5: Participants' responses to aspects of "Appropriate Assessment of Athletes' Readiness'

Issue 5: Aspects	Respondents						Total score	Mean score
	R1	R2	R3	R4	R5	R6		
Cneck the medical history of the athletes	4	5	4	5	5	5	28	4.67
Cneck report on physical ability of athletes	4	5	4	5	5	5	28	4.67
Aware of motivation and interest of athletes	4	4	4	4	4	4	24	4.00
Aware of the social skills of athletes	4	4	4	4	4	4	24	4.00
Match the event with the ability of the athlete	4	5	4	4	5	4	26	4.33
Develop an individualised plan for each athlete	4	4	4	4	4	4	24	4.00
Keep a record of athlete's progress	4	4	4	3	5	4	24	4.00
Total score of Participants	28	31	28	29	32	30	178	-
Mean score of respondents	4.00	4.43	4.00	4.14	4.57	4.29	-	4.24

4.3.5.1 Calculation of mean for Issue 5:

Total score = 178
Number of aspects = 6
Number of participants = 7
Average = (178) ÷ (6x7) = 4.24 (correct to 2 decimal places)

4.3.5.2 Calculation of standard deviation for Issue 5:

Mean = 4.24
n = 42
σ = 0. 0.48 (correct to 2 decimal places)

4.3.5.3 Analysis of "Appropriate Assessment of Athletes' Readiness"

From Table 5, respondents generally strongly agreed with the risk factors 'check the medical history of the athletes' and 'check report on physical ability of athletes'. All respondents agreed that other risk factors are: an awareness of the athletes' interests, motivation and social skills. They also agreed that they must choose events appropriate for the athletes, keep the athletes' progress and that a training plan tailor-made for each athletes are important risk factors to bear in mind.

R5 generally strongly agreed whereas the other respondents generally agreed that the factors are risk factors in assessing athletes' readiness for the training. The mean of 4.24 and standard deviation of 0.48 supports the statement that generally all the respondents agree with the risk factors involved in "Appropriate Assessment of Athletes' Readiness".

4.3.6 Special Olympics Coach (Issue 6)

Table 6: Participants' responses to aspects of "Special Olympics Coach"

Issue 6: Aspects	Respondents						Total score	Mean score
	R1	R2	R3	R4	R5	R6		
Certification in Coronary-Pulmonary Resuscitation and First-aid	4	4	4	4	5	5	26	4.33
Coaching to prevent injuries	4	5	4	4	5	5	27	4.50
Have and assistant coach during the training	4	4	4	5	5	5	27	4.50
Distribute the safety plan to all personnel involved in the training	4	4	4	5	5	5	27	4.50
Teach athletes to recognise risk factors	4	4	4	4	5	5	26	4.33
Establish routines in the training	4	3	4	4	5	3	23	3.83
Enforce rules and regulations of the sports	4	4	4	5	5	5	27	4.50
Teach proper techniques and skills	4	4	4	5	5	5	27	4.50
Enforce the proper wearing of protective equipment	4	5	4	5	5	5	28	4.67
Have professional qualifications in sport coaching	4	3	4	3	5	5	24	4.80
Aware of transmission of diseases through contact	4	4	4	5	5	5	27	4.50
Ensure that there is a safety policy in your organisation	3	4	3	5	4	5	24	4.00
Be knowledgeable in the activity that you are supervising	4	4	4	5	4	5	26	4.33
Always have a back-up plan for your activity	4	4	4	4	4	4	24	4.00
Be present when the athletes are on the field	4	5	4	5	5	4	27	4.50
Have a clear view of all athletes involved in the activity	4	5	4	5	5	5	28	4.67
Be able to manage aggressive behaviour	4	4	4	5	4	5	26	4.33
Winning a medal is most important to me	3	2	2	2	2	2	13	2.17
Athlete's progress is most important to me	4	4	5	4	5	5	27	4.50
Total score of Participants	74	76	74	84	88	88	484	-
Mean score of respondents	3.89	4.00	3.89	4.42	4.63	4.63	-	4.25

4.3.6.1 Calculation of mean for Issue 6:

Total score = 484
Number of aspects = 6
Number of participants = 19
Mean = (484) ÷ (6x19) = 4.25 (correct to 2 decimal places)

4.3.6.2 Calculation of standard deviation for Issue 6:

Mean = 4.25
n = 114
σ = 0.76 (correct to 2 decimal places)

4.3.6.3 Analysis of "Special Olympics Coach"

From Table 6, respondents have generally agreed strongly about the following factors (in order of intensity): (1) having professional qualifications in sport coaching; (2) enforce the proper wearing of protective equipment and having an unobstructed view of their athletes involved in the activity; (3) injury prevention, having an assistant-coach and teaching proper techniques and skills, emphasising athletes' progress and being present are part of their coaching strategy to increase safety. They generally agree that certification in CPR and first-aid, teaching athletes to recognise risk factors, be knowledgeable in the activity they are supervising, ability to manage aggressive behaviour, establishing routines, having a safety policy in their SO organisation and having a back-up plan are risk factors. The respondents generally disagreed that they coach to win.

The mean is 4.25 and the standard deviation of 0.76 indicates that generally all respondents perceived the factors are risk factors associated with the SO coach.

4.3.7 Parents/Guardians (Issue 7)

Table 7: Participants' responses to aspects of safety issue "Parents/Guardians"

Issue 7: Aspects	Respondents						Total score	Mean score
	R1	R2	R3	R4	R5	R6		
I consider parents/guardians as a risk factor	3	3	4	4	4	3	21	3.50
Inputs from parents/guardians in planning the training is important	4	4	3	3	4	4	22	3.67
Parents'/guardians' cooperation in following the coach's safety plan is important	4	5	4	4	4	5	26	4.33
Parental/guardian's written consent is important	4	5	4	4	4	5	26	4.33
Total score of Participants	15	17	15	15	16	17	95	-
Mean score of respondents	3.75	4.25	3.75	3.75	4.00	4.25	-	3.96

4.3.7.1 Calculation of mean for Issue 7:

Total score = 95
Number of aspects = 6
Number of participants = 4
Mean = (95) ÷ (6x4) = 3.96 (correct to 2 decimal places)

4.3.7.2 Calculation of standard deviation for Issue 7:

Mean = 3.96
n = 24
σ = 0.76 (correct to 2 decimal places)

4.3.7.3 Analysis of "Parents/Guardians)

From Table 7, all respondents agreed that parental and guardian's cooperation and written consent plus their knowledge and information about their children are risk factors identified under the safety issue of "Parents/Guardians".

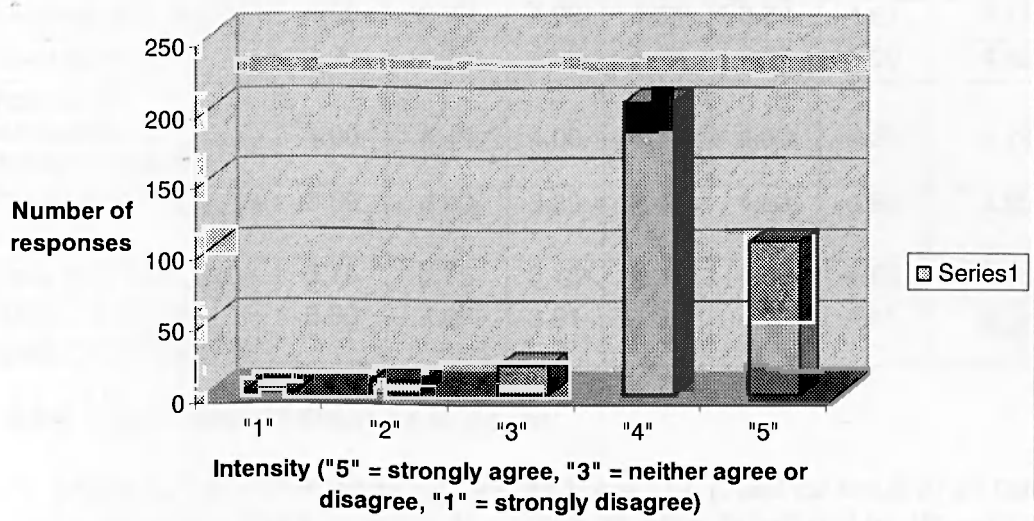
All respondents also agreed that generally the risk factors identified contribute to safety issue 7.

Simmerman (1997) said that parental perception is pivotal to the success of a sport programme; if the parents perceived that their children or kids are learning, growing and improving in the sports programme then they are likely to encourage future involvement. I wish to add that the parents will support the sport programme when the activities are conducted in a safe environment.

The mean of 3.96 and the standard deviation indicate that the generally the respondents agreed with the risk factors identified.

4.3.8 Overall responses

Figure 1: Overall intensity of perception of sport safety



From Figure 1, we can see that the mode is "4" which is "Agree". This represents 59.94% (correct to two decimal places) of all the responses. "Strongly agree" is 31.29% and both of these categories give a total of 91.23%. There was only one response for "Strongly disagree" (0.29%), nine responses for "Disagree" (2.63%) and 20 responses (5.85%) for "Neither agree nor disagree".

Table 8: Summary of respondents' average responses to each safety aspect.

Respondents / Safety aspects	Average of each safety aspect as per respondent						Means of safety aspect
	R1	R2	R3	R4	R5	R6	
1. General safety plan	3.33	3.67	3.50	4.00	3.67	4.50	3.78
2. Field of Play	4.20	4.00	4.20	4.80	4.00	4.80	4.33
3. Facilities and Venue	4.00	3.89	4.00	4.33	3.78	4.67	4.11
4. Sport equipment	4.00	4.71	4.00	4.29	4.57	5.00	4.43
5. Appropriate assessment of athletes' readiness	4.00	4.43	4.00	4.14	4.57	4.29	4.24
6. The Special Olympics coach	3.89	4.00	3.89	4.42	4.63	4.63	4.25
7. Parents or Guardians	3.75	3.75	3.75	4.25	4.00	4.25	3.96
Mean of all safety aspects by respondent	3.89	4.07	3.91	4.33	4.28	4.61	4.18

4.3.8.1 Calculation of mean for all issues:

Total scores of all aspects = (Total for Issue 1) + (Total for Issue 2) + (Total for Issue 3) + (Total for Issue 4) + (Total for Issue 5) + (Total for Issue 6) + (Total for Issue 7) = 136 + 130 + 222 + 186 + 178 + 484 + 95

= 1 431

Total number of participants = 6

Total number of risk factors = 57

Mean for the issues in this study = (1 431) ÷ (6x57)

= 4.18 (correct to two decimal places)

4.3.8.2 Calculation for standard deviation for all safety issues:

Mean = 4.18

n = 342

σ = 0.70 (correct to 2 decimal places)

4.3.8.3 Analysis of overall safety perception

From Figure 1 and Table 8, I can say that all respondents agree that general safety plan, field of play, facilities and venue, sport equipment, appropriate assessment of athletes' readiness, the SO coach and parents or guardians are safety aspects when they train their athletes.

R6 strongly agree whereas the other respondents agreed with all the safety issues identified.

The mean of 4.18 and the standard deviation of 0.70 indicate that the coaches agree with the safety issues identified.

4.3.9 Differences between means of beginner and experienced SO coaches

Table 9: Means of beginner and experienced SO coaches

Safety Issues	Mean based on SO experience		Observations of mean
	Begin-ner	Experienced	
1. General Safety Plan	3.50	3.92	Mean of experienced coaches is greater than mean of beginner coaches
2. Field of Play	4.10	4.45	
3. Facilities and Venue	3.94	4.19	
4. Sports Equipment	4.36	4.46	
5. Appropriate Assessment of Athletes' Readiness	4.21	4.25	
6. The SO Coach	3.95	4.39	
7. Parents/Guardians	3.75	4.06	
Overall	3.98	4.29	

4.3.9.1 Calculation of means for beginner SO coaches for Issue 1:

Number of beginner SO coaches = 2
Total scores of beginner SO coaches for Issue 1 = 42
Number of risk factors in Issue 1 = 6
Mean of beginner SO coaches for Issue 1 = (42) ÷ (2x6) = 3.50

4.3.9.2 Calculation of means for experienced SO coaches for Issue 1:

Number of experienced SO coaches: 4
Total scores for experienced SO coaches for Issue 1 = 94
Number of risk factors in Issue 1 = 6
Mean of experienced coaches for Issue 1 = (94) ÷ (4x6) = 3.92

Similar calculations were repeated for Issues 2, 3, 4, 5, 6 and 7: all the means for beginner and experienced SO coaches are tabulated in Table 9.

4.3.9.3 Calculation of mean and standard deviation for beginner SO coaches for all the safety aspects:

Number of beginner SO coaches = 2

Total number of risk factors = 57

Mean for beginner SO coaches = (Total score of beginner SOcoaches) ÷ [(number of beginner SO coaches)(total number of risk factors)]

= 454÷ (2x57) = 3.98 (correct to 2 decimal places)

Standard deviation for beginning SO coaches was found to be 0.59 (correct to 2 decimal places)

4.3.9.4 Calculation for mean and standard deviation for experienced SO coaches for all issues

Number of experienced SO coaches = 4

Total number of risk factors = 57

Mean for experienced SO coaches = (Total score for experienced SO coaches) ÷ [(number of experienced SO coaches)(total number of risk factors)]

= 977÷ (4x57) = 4.29 (correct to 2 decimal places)

Standard deviation for experienced SO coaches was found to be 0.72 (correct to 2 decimal places).

4.3.9.5 Analysis of Table 9

A general trend in tendency was observed, that is the means of all safety issues are higher for experienced coaches when compared to beginner SO coaches. Coincidentally, each of the two beginner coaches has no certification either from Special Olympics or any NGSBs and have been involved in SO for less than one and a half years. The other four coaches have been coaching SO athletes for at least 13 years. The trend seemed to suggest that the experienced SO coaches generally tend to rate higher the risk factors on safety, when compared to beginner SO coaches.

4.3.10 Risk factors for injuries identified by SO coaches (Strongly agree and Disagree)

Table 10: Risk factors rated 'Strongly Agree' (Mean at least 4.50)

Issues and Aspects		Mean of Respondents
1. General Safety Plan		
	a. I plan for the safety of my athletes when I conduct my training.	4.67
2. Field of Play		
	e. If the training is held indoor, ensure that there is proper ventilation and lighting.	4.50
4. Sports Equipment		
	a. Equipment used for the activity is sufficient in number and well-maintained.	4.50
	b. The equipment used fits the athletes properly.	4.50
	c. The equipment used is appropriate for the athlete.	4.67
	d. The athletes are taught proper use of the equipment.	4.67
	e. The proper use of the equipment is enforced during the training.	4.67
5. Appropriate Assessment of Athletes' Readiness		
	a. Check the medical history of the athletes.	4.67
	b. Check report on physical abilitv of athletes.	4.67
6. The Special Olympics Coach		
	b. Coaching to prevent injuries.	4.50
	c. Have an assistant coach during the training.	4.50
	d. Distribute safety plan to all personnel involved in the training.	4.50
	g. Enforce rules and regulations of the sports.	4.50
	h. Teach proper techniques and skills.	4.50
	i. Enforce the wearing of protective equipment.	4.67
	j. Have professional qualifications in sports coaching.	4.80
	k. Aware of transmission of diseases through contact.	4.50
	o. Be present when the athletes are on the field.	4.50
	p. Have a clear view of all athletes involved in the activity.	4.67
	s. Athlete's progress is most important to me.	4.50

Table 10 gathered together risk factors that have been rated as 'strongly agree'. By focusing on the "extremes" in intensity, the researcher is am of the opinion that they will better reflect answers to research question two which is: "What are the risk factors for injuries among their athletes identified by the SO coaches?" Coaches identified twenty risk factors (35%) as "Strongly agree" notable among these are: Have professional qualifications in sport coaching; checking the equipment and

enforcing wearing of protective equipment; checking the medical history of the athletes; and having a good view of the athletes during practices.

Table 11: Risk factors that were rated 'Disagree' (Mean less than 2.50)

Number	Issues and Aspects	Mean
1. General Safety Plan		
	b. I write down this safety plan.	2.33
6. The Special Olympics Coach		
	r. Winning a medal is most important to me.	2.17

Writing down their safety plan apparently is not a normal practice for the SO coaches. Stomp (2003, p. 157) said that "*Tacit knowledge consists of isolated observations and experiences not yet integrated and connected to our codified knowledge. They seem intuitively important, but puzzling.*"

Experienced professionals handle and cope with ambiguous situations frequently, situations that require the professionals to fall back on useful everyday experiences for solutions. Wagner (1993) informed us that professionals make use of tacit knowledge, knowledge that helps the professionals to manage the myriad of problems on a daily basis (Wagner, 1993 cited in Danzig and Harris,1996, p. 194). Wenger (1998) added that coaching requires both the explicit (e.g. language, roles, tools etc) and the implicit (underlying assumptions, tacit conventions etc.). Wenger (*Ibid.*) also said that the implicit knowledge, most of which are not expressed, are the obvious practices that are crucial to the effectiveness of a coach (Wenger, 1998, quoted in Cushion, 2007).

But then under Issue 6 (SO Coach as a risk factor), a mean of 4.50 was obtained for the risk factor "Distribute safety plan to all personnel involved in the training." This implies that a safety plan is important and all parties involved in the training must be given a copy of the safety plan which is normally prepared by someone else and not the coach. Thus comparing the two means, I can only make a conjecture that SO coaches do not write down their safety plans but they distribute the safety plan to all personnel involved in the activity, the safety plan prepared by someone else.

"Winning a medal is most important to me" has also been disagreed upon as a risk factor. This implies that the coaches deemed that other aspects of coaching are more important: this is important as the oath of SO athletes (Special Olympics (2009j) is "*Let me win. But if I cannot win, let me be brave in the attempt.*" This oath emphasises that winning is important but the process of winning is the real challenge for the athletes. According to my knowledge and experience as a Regional Trainer for SO Asia-Pacific (SOAP), this attitude of the SO coaches is an important key to the success of SO competitions worldwide. This is because competitors are grouped together, three to eight per group, according to gender, age-group and ability or competence in that event. This method of grouping competitors is known as Divisioning and is unique to SO; each group is called a division ((Special Olympics (2009k)). There are winners for each division.

This risk factor should be stated differently like "The attempt to win is most important to me." The resulting intensity most probably will swing to 'Agree' or 'Strongly Agree' and will better reflect that it is a risk factor to be given proper attention by SO coaches. With the change in the statement, the mean for Issue 6 will increase, thus reflecting a truer picture of the SO coaches intensity in perception of safety.

4.4 Transcripts of interviews

The transcripts were examined repeatedly and through data reduction the themes and patterns that will answer the research questions are presented under the appropriate headings of "SO Sport Coaches" and "Policy-maker".

4.4.1 SO Sport Coaches

(a) All the participants agreed that safety and risk management are important in sports training activities for the SO athletes. For example, R2 recalled that "*training for safety and risk management is very important... because I must think for myself, I do not want some problems with the parents, that I cause something bad.*"

(b) All the participants could explain that the general approach to injury followed a regular pattern of: (i) checking the severity of the injury; (ii) if the injury is not serious

then first-aid will be administered by the coaches; (iii) if the injury is serious, further medical help is sought; and (iv) parents of the injured athlete will be informed of the injury. For example, R3 said:" *first when the injury happens is to find out what actually happened, what range of injury it is, how serious it is and then, if we can do something about it ourselves to provide first aid, what we do and if we can find out it is necessary to call an ambulance or contact the medical consultancy, this is what we do right after.*" R4 reaffirmed by saying that "*if injury happen, to be able to provide first aid and then if not seek medical help as quick as possible. This is basically what we do.*" R1 added that "*when an injury happens that they have to call the parents first as well not only contact the doctor or do the first aid themselves. Everybody is informed and everybody has the kind of comfort in communication.*"

The two experienced coaches explained that the main source of knowledge for safety and risk management came from their major sports involvement prior to joining Special Olympics. The certification process of these NGSBs have their own professional standards and practices for their own officials: one of the regular activities to upgrade their officials' professionalism was the emphasis of safety and first-aid in their courses. R4 reported that: "*As a professional teacher they make you always to have a background on physical education and first aid. There were workshops on first aid at the regular school. I had a certain level of certification coaching license and part of the education was the managing of injuries in the specific sport.*" R3 reported that:" *I had gone through two SO workshops, each a 3-day education session; it gave me some know-how, some experience but the main thing for me because I have worked in soccer all my life, twice a year we have some sessions aimed at safety as well.*" These experiences were brought into SO coaching environment. Knowledge on safety and risk management in specific SO sports are also provided regularly by the SONP. R4 added that: "*SO has a big interest in educating their coaches on safety, preventing risk and risk management, and this was another way where I have extra education on safety.*"

For the beginner SO coaches, R2 mentioned that she falls back on her knowledge on safety that was learned through working with 6-11 year old children with problems. Her own experiences educating her children and in volunteer camps

informed her about safety in sports. R1 said that her knowledge on safety came from University studies: the most important contribution on safety comes from working together with an experienced SO coach. "*His good skills and experiences are good for me because before the practice, he may say 'Watch out this may happen'. This made me realise the safety and that if something happens both of us know what to do first.*"

Thus, the coaches have provided information on they are informed about safety in sports: their sources of knowledge and skill comes from formal courses like first-aid courses in schools, safety and risk management course provided by SONP and professional certificates from NGSBs in the sports the coach is involved in, or as R2 reported, from daily experiences like: 'common-sense' knowledge of safety from child-rearing, family life or voluntary work with children during summer camps. R1 reported that *"the experienced coach has lots of practice behind him. It is good his skills and experiences is good for me".* R1 and her experienced partner even tried the activities themselves to experience what their athletes will be doing and R1 was alerted to possible injury situations. R1 reported: "*Before we do some practice, he may say 'Well, watch out this may happen like if we do something so get ready in case this happen, we do this and that.'*"

4.4.2 Policy-maker

The participant explained that SONP organises twice a year educational sessions/workshops for coaches and part of this workshops is a 4-hour session focused on risk management, safety and first-aid. Internal materials, like booklets which are produced with the cooperation of a local university, were used. A final examination for those who participated in these workshops is used as a record that they went through the course.

SONP has not received any complaints about something that happened during the practice. The respondent then recounted that an injury did happen at a cycle race; the athlete suffered broken teeth. There was not complaint as SONP had taken precautionary steps; they had to go through the procedures of health insurance as the athlete had health insurance. "The accident was sorted out, it happened but no complaints" the official added.

If there is a complaint, SONP will investigate the situation. If the mistake is from the coach then the coach will be asked to explain the incident. This inquiry is to find out the cause so that appropriate steps will be taken in the future. The only form that needs to be filled is the insurance form for the injured athlete whether there is complaint or no complaint.

SONP always take steps in supporting risk management. With big sports activity, like the national-level games, the cooperation has to go on a wider scale involving doctors, firemen and police. This is to make sure that safety is as high as possible.

The policy maker added that risk of injury is inherent in sports activities. The official recounted an incident with these words: "*During one practice, one client fell off the stationary bike. She had epilepsies and the coaches did take this kind of precautions like she was wearing helmet and everything but still she fell. It happened but there was not complaint. She just had bruised knees and did not require medical help*." The official further added: "*Different sports have different risk factors. In Bocce the athletes could roll the ball against somebody else. You cannot compare risk factors in Bocce with Floor Hockey*."

4.4.3 Local expert on intellectual disability

Marie Černá, shared her knowledge on working with people with intellectual disability. She said, "Coaches working with athletes with intellectual disability need to consider many factors... and safety issues should be integral part of the activity. The work of coaches is non-substitutable not only because of trained sport disciplines but also because of health and safety issues of the athletes." She recommended that coaches should know the individual characteristics of their athletes before acquainting their athletes with risk and safety factors. She suggested pedagogical approaches like the following to be followed: the teaching should be as concrete as possible, use demonstration, simple and intelligible for everybody, and make sure that the athletes understand what they have learned. She also said that it is difficult to give practical advice on effective coaching as there are so many factors that determine effective coaching. She then gave some general points to remember, for example, permanent presence of a coach and or his/her

deputy, maintenance of discipline and health issues, healthy environment, acquaintance of environment and elimination of health hazard manners.

4.5 Summary

The following is a summary of the findings in chapter four.

(a) All respondents agree that general safety plan, field of play, facilities and venue, sport equipment, appropriate assessment of athletes' readiness, the SO coach and parents or guardians are safety aspects when they train their athletes.

(b) All the participants could explain that the general approach to injury followed a regular pattern of: (i) checking the severity of the injury; (ii) if the injury is not serious then first-aid will be administered by the coaches; (iii) if the injury is serious, further medical help is sought; and (iv) parents of the injured athlete will be informed of the injury.

(c) Knowledge on safety comes from varied sources: informally through home-based practices, 'common-sense' and practising with an experienced coach, or formally through course provided by SONP and National Governing Bodies.

(d) From Table 9, the means of all safety issues for experienced SO coaches are greater than that of beginner SO coaches. This suggests that the intensity of perception on all the safety issues by experienced SO coaches is greater than the intensity of perception by beginner SO coaches.

(e) Coaches have identified 20 (37%) of the risk factors as "Strongly agree" with the highest intensity in perception (mean of 4.80) for obtaining professional qualification in sport coaching. This was followed by (mean of 4.67) risk factors on equipment and its use by the athletes, checking of the medical records of the athletes, and general coaching principles like planning for safety, ensure the proper use of protective equipment and keeping their athletes in sight during the training. The other risk factors are on the lower end of the "Strongly agree" scale and this include risk factors such as ventilation and lighting, equipment that fits the athlete and are well maintained, proper coaching in terms of techniques and proper use of the equipment, and an awareness of health issues like transmission of contagious diseases.

(f) The policy maker had given information that generally corresponds with the information given by the coaches. This shows a general practice that is operationalised by the SO coaches.

(g) The input from Marie Černá gave some information on pedagogical aspects of teaching people with intellectual disability about risk factors and safety.

In this chapter, evidences were collected, analysed, and presented for discussion in the next chapter. Means and standard deviations were the main statistics used for transforming responses provided by the self-administered questionnaire. For responses to interviews, transcripts were examined repeatedly in order to seek answers to research questions. Data presented in the form of tables hopefully should enable readers to comprehend and follow the method of analysing and how the conclusions or findings are derived.

Chapter Five

Evaluation

5.0 Introduction

This chapter focusses on the findings presented in chapter four, findings based on exploring the data collected through the self-administered questionnaire and the transcripts of interviews from the sample chosen for this study. Literature from chapter two will provide a background to evaluate the findings with regard to SO coaches' perception of risk factors and safety in their training of SO athletes. The discussion on the findings will proceed under the research questions: there will be five subsections each dealing with one different research question. This chapter ends with a summary of discussions covered in this chapter.

5.1 What is the level of awareness of SO coaches towards sport safety when they conduct training for their athletes?

The overall indicator for intensity of perception of the seven safety issues is the mean of 4.18 with a standard deviation of 0.70. The mode is "Agree" which represents 59.94% of the responses: "Agree strongly" was 31.29% and the total of these two intensities is 91.23%. The mean represents agreement with the safety aspects when the coaches conduct their training. This is in line with the general responsibilities of a sport coach generally and SO coach specifically. Lee (1993) stated that one of the responsibilities of a sport coach is to provide a safe environment for their athletes to learn because as young athletes have yet to to be able to predict danger or take appropriate evasive actions. By taking precautionary steps in their activities, the SO coaches are providing a safe environment.

The finding is also generally consistent with the Code of Conduct which states: "*Coaches have the ultimate responsibility to reduce the risks of participation for athletes involved in the sport that they are coaching*" (Special Olympics, 2009d).

and the Safety and Risk Management (Special Olympics, 2009d) requirements. Among these requirements on safety are: (1) ensure that the equipment and facilities are safe to use; (2) ensure that the equipment are safe and appropriate for the age and ability of the athlete; (3) checking the medical history, and matching the particular sport with the athlete's abilities.

The mean of 4.18 and standard deviation of 0.70 also indicate that some coaches are unsure whether some of the risk factors identified are actually risk factors. For example, R1 has a mean of 3.89 for all the safety aspects. There could be other reasons why there is uncertainty; one probable reason is the statement could have other meanings and the other could be lack of experiences about safety and risk factors. This could also be the reason why R1 "Strongly disagree" (the only such response for the whole study) for risk factor "If the training is held indoor, ensure that there is proper ventilation and lighting." It would be a good idea to find out more about this choice of perception through use of more probing questions.

5.2 What are the risk factors for injuries among their athletes identified by SO coaches?

Coaches have identified 20 (37%) of the 57 risk factors as "Strongly agree" with the highest intensity in perception (mean of 4.80) for obtaining professional qualification in sport coaching. "*The key to improving athlete performance and well being is based on the quality of training and experiences provided by the Special Olympics coach. The Special Olympics Coaches Education System identifies basic standards and competencies necessary and essential for being a Special Olympics coach*" (Special Olympics, 2009m). SO encourages her coaches to obtain training and certification. "*Coaches are encouraged and recognized for participating in other approved non-Special Olympics coaches education that includes, but is not limited to, first aid and cardiopulmonary resuscitation, rules updates, managing athlete behavior and protective behavior, national governing body courses, training updates, etc.*" (Special Olympics, (2009l)). SO similarly exhorts coaches to follow professional course provided by SO and/or NGSBs.. Part of the SO course requires that a beginner coach to take part in a mentor-mentee situation, that is coaching in partnership with an experienced and certified SO coach. This particular approach was highlighted by R1 when she recalled how the experienced coach was able to alert her to risk factors and safety because of his knowledge and experiences.

The next higher intensity of perception of safety (mean of 4.67) are risk factors on equipment and its use by the athletes, checking of the medical records of the athletes, and general coaching principles like planning for safety, ensuring proper use of protective equipment and keeping their athletes in sight during the training.

These risk factors are also highlighted in SO Safety and risk management courses (Special Olympics (2009d)) and also courses provided by NGSBs. This is confirmed by R4 who said: "*When I was coaching Volleyball I had certain level of coaching license and part of the education was the managing of injuries in the specific sport. And as well for SO, the SO does either the general safety and risk management and as well once you are focused on your sport then there is a special workshop like what specific risk come out from the specific sport you are coaching.*"
This finding does not preclude that other factors are not perceived as not risk factors; I am more confident that "Strongly agree" are more probable to be risk factors.

5.3 What are the sources of knowledge and skills on sport safety of SO coaches?

The experienced SO coaches agreed that safety and risk management course organised by both SONP and NGSBs are complementary and reinforcing. This is supported by R3 who said:" *For the special risk management education, I had gone through two workshops organised by SONP. It gave me some know-how, some experience but it is not the main thing for me because I have worked all my life with soccer, two times a year we have some sessions that was aimed at safety as well.*"
Similarly R4 recounted "*I was working as a teacher, so as a professional teacher they make you always to have some background for physical education. And of course every teacher has to have a background for first-aid. I have certain level of coaching license in Volleyball and part of the education was managing injuries. SO has a big interest in educating their coaches on safety and risk management and this was another opportunity where I have extra education*"
The statements by R3 and R4 are supported by the SONP official who said: " *Two times every year we regularly organise a tuition or a session, educational sessions. And part of this workshop is a 4-hour tuition which is focused on risk management and, safety and first-aid.*"
R2 mentioned that her own personal experiences of upbringing her own children and involvement in summer camps for children provide her with skills and knowledge on safety. R1 mentioned that her university experience provided her with some theoretical subject aimed on health, first-aid and safety.

R1 recounted how she benefited from a mentor-mentee situation when she was paired with an experienced SO coach. This learning mode is supported by Danielson (1996) who said: "*One of the greatest gifts an experienced teacher can offer the profession is to serve as a mentor to a novice. By sharing acquired wisdom, the veteran can spare the beginner hours of time and countless occasions of self-doubts.*" The researcher I would like to add that the mentor-mentee situation provides opportunities for immediate explanation and feedback on any query raised by the beginner coach. Moreover, the questions and answers are situated in the context, making it easier for knowledge and skills to be learned.

R4 further added that "*Practice is the best teacher because once you have your experience you can better prevent what could eventually happen. And from your own experience you can foretell what risks could come out.*"

Trudel and Gilbert (in press, cited in Werther & Trudel, 2006) remarked that coaches learn to coach through two ways: through large-scale education programme and through experience (p. 198). From ~~my~~ the researcher's own personal experience, this observation is very true: theoretical treatment of safety must go together with real-life experiences where knowledge and skills are applied in context.

Overall the SO coaches interviewed expressed that experience is an important source of knowledge on safety and risk management apart from the formal courses conducted by SONP and NGSBs.

5.4 What are the different ways of handling injuries by SO coaches during sport training?

Generally there is a well-defined procedure as recounted by the coaches, to handle injuries sustained during the training. R4 said: "*Of course the most important is to distinguish what type of injury it is, what level of injury, if it can be treated by first-aid. And if we find out that it is more difficult injury then the first thing is to stabilise the client and then call professional help or medical service.*" R4 provided a specific example in the game of Floor Hockey. "So for example in my sport in Floor Hockey, like muscles suffer a lot and sometimes a muscle is pulled and this causes pain. This is something we can treat ourselves either me or my assistant, Things we can do is like stretch, or eventually a pain-killer shot that we can do to reduce the pain level so the athlete can play again or relief the pain."

R1 added that "*when an injury happens then they have to call the parents first as well as not only contact the doctor to first-aid ourselves.*" R2 added that "*It is important that we not alone with people, some of us can stay with the rest of the people and one of us can be with the client who has problem.*" By this R2 meant that it is always important for coaches to work in pairs, one coach to attend to the injured athlete and the other to supervise the other athletes.

R3 recounted an incident that a male swimmer, a big guy over a hundred kilo, while practising in the pool had an epileptic attack. It was a little hard to push him out of the water and make sure he was safe. This episode also supports R2's opinion about the importance of having at least two coaches present in their training activities.

The SONP official provided further information about events after the injury: " *First we have to make some enquirement about the situation. If it is the mistake of the coach then we will speak to the coach about how to do best the training and risk management. We have to fill a form for insurance purpose.*" The official added that the insurance form is filled whenever there is any injury, whether requiring medical attention or not. R6 suggested that the injury need to be recorded in a book. This is a good suggestion for future references: a collection of injuries and its etiology could provide patterns of injuries that could identify the risk factor(s) and thus allow further precautionary measure(s) to be taken.

The official of the SONP recounted an incident: "*It was a cycle race, teeth like broken teeth but the coaches have taken all the steps and there was no complaint. It was all sorted out as it should be, it happened but no complaints.*"

This augurs well for safety in sport practices: the coaches take precautionary steps with regards to safety and they follow a general procedure to handle injuries when they happen. Consequently, there has been no complaint about SO coaches and safety in training. The accounts given offer a general picture of sport risk management in the SONP.

5.5 Is there any difference in the perception of safety issues between beginner and experienced SO coaches?

The means of all seven safety issues of experienced SO coaches are greater than the corresponding means of beginner SO coaches. Although only two beginner SO

coaches were involved in this study, nevertheless the pattern is quite clear. The biggest difference in the means (0.44) is for Issue 6 (SO coach as a risk factor) and the smallest difference (0.10) is for Issue 4 (Sport equipment as a risk factor).

Werther and Trudel (2006) say coaches need to develop a knowledge base for coaching and knowledge of the specific sport. And coaches obtained these knowledge through "*large-scale education programmes and experience*." (Trudel & Gilbert cited in Werther & Trudel, 2006). Trudel and Gilbert (*Ibid.*) explained that experiences include situations and events like "*playing experience, mentoring, coaching courses, interactions with other coaches, Internet, etc.*" (p. 198). Coaching certification is usually obtained only after completing a prescribed syllabus (theoretical and practical): and there is also a hierarchical structure in the certification. Thus it is not surprising that experienced coaches have lots of knowledge, skills and experiences on safety and risk management. This is supported by R3 who said:" *For the special risk management education, I had gone through two workshops organised by SONP ..... I have worked all my life with soccer, two times a year we have some sessions that was aimed at safety as well.*" Similarly R4 recounted "*I was working as a teacher, so as a professional teacher they make you always to have some background for physical education. And of course every teacher has to have a background for first-aid. I have certain level of coaching license in Volleyball and part of the education was managing injuries.*" These experienced coaches could have 'seen it all' with regards to safety and as such, could have been more sensitive to the risk factors: they therefore rated higher their perception of the risk factors as compared to the beginner coaches.

The small difference in the means for beginner and experienced SO coaches on sport equipment could indicate that both groups perceived this safety issue quite equally. Moreover their respective means of 4.36 and 4.46 put both of their perceptions in the category of "Agree". As pointed out in chapter four, R4 was unsure and R5 disagreed that warranty of equipment could be a risk factor. According to my experience, both are experienced coaches and if something untoward happens to their athletes, for example an injury caused by using equipment whose warranty has expired, then the injury could be traced to the coaches interpreted as negligence and a breach of duty of care for their athletes.

On the other hand, R1 and R3 shared their experiences when they devised a strategy of checking the equipment and the activity itself before letting their athletes use the equipment for their training. For example, R3 recounted that "*we try it ourselves, so we do it before the clients, and to find out if it is not too difficult, if there are some obstacles that could come out from our idea.*" R1 added that "*trying everything before hand looked funny; we practise such an easy step or easy thing but it actually paid back several times already. Once we tried to walk over the bench we found some screws need to be fastened or it is kind of wrong position or it is slippery or something.*"

Generally experienced SO coaches seemed to have stronger intensity about the risk factors identified under the issue of sport equipment when compared with beginner SO coaches. Both groups are strongly placed in the 'Agree" category.

5.6 Summary

This chapter shows how the data collected, both by the self-administered questionnaire and transcripts of interviews, are analysed and discussed to provide answers to the research questions. Here is a summary of the findings:

1) SO coaches seemed to perceive that the factors and issues identified are risk factors and safety issues which they take into account when they conduct sport training for athletes with intellectual disability.

2) The SO coaches seemed to perceive strongly 20 out of 57 (37%) are risk factors in terms of safety in their training activities; the strongest perception (mean of 4.80) being 'having professional qualification in sport coaching."

3) SO coaches obtained their knowledge of safety from a variety of sources: from informal daily experiences of child-rearing to formal coaching course that leads to certification. These courses are provided by SONP and NGSBs. Overall the coaches emphasised the importance of learning through experience.

4) There is a defined procedure to follow when there is any injury in any training session. This procedure is: assesses the severity of the injury, apply first-aid if

possible, then go for medical help, informing the parents and filling up an insurance form.

5) Experienced SO coaches seemed to be more intense in their perception of risk factors and safety issues when compared to beginner SO coaches.

These findings are suggestive of SO coaches perception of risk factors and safety when they conduct training activities with their SO athletes.

Chapter Six
Discussion

"No sporting award in children is more important enough to risk damaging future health."

(Lee, 1993, p. 234)

6.0 Introduction

The need for the promotion of active and healthy lifestyles among children and youth is great. But increasing healthy lifestyle through sport and physical activity increases the risk of injury as injury is an inherent part of sport activity. Raymond (1999, p. 85) reaffirmed this situation when she said: "*Safety cannot be guaranteed or ensured because unforeseen conditions, improper decisions and poor judgement can all generate risk or hazard.*" Raymond (*Ibid.*) added that "*there is no suggestion that sport activities have to be avoided simply because they carry an inherent risk of injury.*" One way to reduce drop-out or attrition in the number of sport participants is that sport coaches can only take precautions and factor as many of the risk factors as they reasonably could into their training activities, i.e. build safety into their coaching programmes. Given that people with intellectual disability have lower cognitive capability, the role of the coach in ensuring safety takes on greater significance.

The way in which a coach conducts his training reflects his value system, that is, things that they believe to be important in their lives (Lee, 1993). This belief is translated into actions and behaviour. This study has provided some insights on how SO coaches perceive risk factors and safety, which could be reflected in their training of SO athletes.

6.1 Summary of the research findings

Many risk factors for injury and safety issues have been perceived and identified by SO coaches and these are taken into consideration during their planning and conduct of their sport training with their athletes. These risk factors and safety issues include: obtaining professional qualification in sport coaching, checking and enforcing proper use of the equipment, examining the medical history of the

athletes, planning for safety and keeping their athletes in sight during their training activities.

SO coaches perceived the factors and safety issues identified in this study as risk factors and safety issues that they take into consideration when they plan and conduct their sport training with SO athletes. The SO coaches deemed obtaining professional qualification in sport as very important and that they learn safety from courses and experiences. The SO coaches know the general procedures to be taken should there be any injury in their coaching session.

The respondents have given a poor perception to "Write down safety plan" as a risk factor; this could be an indicator that coaches depend on implicit or tacit knowledge, knowledge that has been informed by experiences and gut-feelings, in their endeavour to find solutions to the many problems when they conduct coaching. Wenger (1998) also said that the implicit knowledge, most of which are not expressed, are the obvious practices that are crucial to the effectiveness of a coach (Wenger, 1998 cited in Cushion, 2007). Given that the propensity of coaches to use implicit or tacit knowledge, then I would suggest that some form of checklist or guideline on risk factors be provided to sport coaches; this could be a useful aid for referencing by the coach and also a document for stand-in coach or to provide evidence that reasonable care was provided.

Respondents gave the lowest rating to "Winning a medal is most important to me." This attitude is supported by the respondents' strong agreement that athlete's progress is most important to the coach. These two statements reflect what SO coaches are concerned with: the attempt is most important and I have observed that the loudest cheer goes to the athlete who is trying to complete a race. Overall these two perceptions are important to realise the SO oath which is "Let me win. But if I cannot win, let me be brave in the attempt."

Finally experienced SO coaches seemed to be more intense in their perception of risk factors and safety in their training when compared to beginner SO coaches. My search of literature has failed to locate findings on this aspect. I can only make a conjecture that the difference in intensity could be attributed to experiences; the

experience of performing first aid, of witnessing injuries and accidents during their coaching sessions and sporting events.

6.2 Evaluation of the research and research methods used

Only six SO coaches answered the self-administered questionnaire, out of which four of them were interviewed. The sample is small and purposive to cater for practical reasons: time constraint and the busy schedule of all the participants involved in this study.

The self-administered questionnaire has strength in that it contained 57 risk factors associated with safety in sport training: these risk factors came from a wide view of literature on safety and sport coaching; risk management in multiple situations like fire department, nursing, parents; and most of all from the safety and risk management modules of SO International; and not forgetting my own personal experiences as a sport participant, SO coach and SO regional trainer for Asia-Pacific. Although the risk factors are not exhaustive, I believe it is extensive enough to capture most of the important ones that SO coaches are aware and knowledgeable about.

Interviewing a SONP official to provide a background for policy matter on safety and risk management was a good idea as it served as another source of information to validate the information given by the interviewees. An analysis of the transcript of Marie Černá (2009, Personal communication) also provided further references on coaches responsibilities on safety.

Additional strength in this study is the selection of the interviewer: her sport and translation background, surfing the internet for SO materials plus the opportunity to observe a training session conducted by SO coaches with SO athletes gave much confidence and credibility to the construction of the research instruments. The transcripts were also of good quality as the same translator of the questionnaire acted as the interviewer thus maintaining reliability of the data collected.

The safety issues in the self-administered questionnaire were not arranged in any particular order: if I were given another chance to use this instrument I would arrange the safety issues according to the finding of this research: putting the safety issue with the highest mean at the beginning followed by the next highest safety issue.

I would also incorporate some of the risk factors suggested by Marie Černá (2009, Personal communication) into the questionnaire. For example, identifying the unique characteristics of the SO athlete like sensorial perception (visual and auditory defects). I recalled an incident whereby a SO athlete told her mother that the mother looked so beautiful when a pair of spectacles were put on her. This athlete had been bowling and the coach was not aware that she had visual problem! And the number of accidents involving this SO athlete during practice and competition was drastically reduced, and enjoyment in the sport increased. We, as SO coaches, must realise that some SO athletes have difficulty in articulating their needs to another person, family members included.

6.3 Limitations of this study

The sample size is small and purposive and the respondents come from a local area of the SONP. As such its representativeness is questionable. Thus, the findings of this study are limited to the local context. Moreover, the national culture and policy provisions could have impacts on sport activities in the country, and the influences are unique. However, some of the findings can be generalised to the whole SONP since safety and risk management is a universal challenge for sport coaches. The sample consists of SO coaches who had to undergo similar training courses, follow rules and regulations laid down by SO International and the SONP.

6.4 implications for practice

The experience gain from this study has altered my perspective of a special breed of sport coaches, the SO coaches. Apart from teaching correct skills and techniques, which itself can sometimes be overwhelming, the SO coaches have to be more alert for any situation that will increase the risk of injury for athletes with intellectual disability. Marie Černá (2009, Personal communication) puts it succinctly

when she said: "*Working with people with intellectual disability the coaches should know personal characteristics of all the members of the group*." Marie Černá (*Ibid.*) also shared her idea that: "*Only on full recognition of their exceptionalities, can the coach make the athletes acquainted with risk and safety factors*." For me, this advice will be one of the main principles for my training courses for present and future SO coaches.

This study has made me realise that a coach's belief system could increase the risk of injuries. It is a paradox that a coach who is genuinely concerned about safety yet praises his or her athlete for continuing on with an activity (especially in a game situation) knowing that the athlete is carrying an injury. I also realised that having a certificate in first-aid is not adequate for any coach: he or she must have the confidence to use that knowledge and skill of first-aid when the situation demands it, for example an injury happen during the training session. Here I discover that there is a gap in knowledge: why are some sport coaches not confident in administering first-aid although they have a certification to say otherwise? What and how could we make coaches administer first-aid with confidence?

Educational institutions are now becoming accessible to people with disabilities in my country. Physical education or activity is part of the school curriculum. Preparing individualised program for people with intellectual disability has to take into consideration risk factors and safety that caters for the need of a particular athlete. For example an athlete is easily distracted by sudden noise and so the coach has to make sure the windows are securely fastened to prevent it shutting suddenly, thus creating a distraction that could result in a injury to the distracted athlete. This study has helped me to identify many risk factors for safety, some of which were not very obvious and had been overlooked in my normal coaching. For example, checking the accessibility of a working telephone is so trivial but can become a decisive risk factor when the telephone is locked inside the office as the office has closed. Or there is a telephone but has been disconnected!

6.5 Recommendations

One important finding of this research is the clear disparity between experienced and beginner SO coaches on the aspect of safety. It is important to provide experiences in terms of training, both theoretical and hands-on, to new SO coaches. SO coaches are volunteers and except for signing on the Code of Conduct for Coaches, there is nothing to prevent coaches from leaving SO. Recruitment of new SO coaches is an ongoing process and to help stem this turn-over of coaches, effort must be made to retain them. Updating the skills and knowledge of existing coaches is one way to retain coaches. Providing real-life situations where acquired skills and knowledge of first-aid could be applied, would be invaluable to increasing confidence of the coaches.

This study has made me realise that further research on safety is needed to identify more specific risk factors associated with the type of sport event, environment, coaching style, unique learning characteristics of people with intellectual disability in sports, how the interplay of these risk factors create newer risk, and if possible how the athletes perceived these risk factors. Congruence or agreement between the perceptions of both SO coaches and SO athletes about many risk factors, I believe, will ensure that more risk factors will be reduced thus increasing safety while permitting the athletes to learn sport in an environment that promotes healthy living and fun.

6.6 Summary

This chapter represents the culmination of my research process: research methodology was evaluated for its strength and areas for improvement; findings were discussed in the light of their impact on my future practices; and suggestions on further research to increase the knowledge base of sports safety. Although safety is inherent in all sport activities, nevertheless, it is important for a sport coach to be aware of risk factors for injury and safety of their athletes and factor these risk factors into their training sessions to better ensure that the athletes learn, enjoy and have fun in addition to greater opportunities for mastery of skills to achieve success in their sport activities.

6.7 ~~My~~ learning curve for this investigation

The learning curve is not smooth; initially it had so many chasms at the beginning, ravines created by ~~my~~ propensity to see the forest and not paying particular attention to details right from the start. One clear example is the referencing and citation style; it was so frustrating and confusing for me although the "what" and "how" are clearly spelt out. 'Trivials' like labeling the files or folders accurately assumed great importance when you are not consistent in choosing the 'correct' names! It was my poor record-keeping that was the main risk factor to the numerous back-peddling effort (not mentioning time consuming effort) to trace the missing details! Experience has been the best teacher for me.

Perseverance, lot of guidance and experiential learning help to smoothen the curve and now there are only kinks here and there but the curve is moving upward! Being a novice researcher, ~~I~~ have to go through the rigours of academic research: juggling trough terms like paradigms, design, parameters, sampling, questionnaire construction, validity and reliability, ethical issues etc. and going through the 'haystack' of published data. These were mere words before ~~I~~ started this study.

~~I~~ am also lucky to be able to meet people working for Special Olympics: observing, talking and interacting with the coaches and athletes; and having insights on how the pockets of activity contribute to raising the potentials of people with intellectual disability and simultaneously enriching both the athletes' and coaches' lives. There are so many approaches to do the same thing; we do our best with what we have and where we are.

Lastly, 'no man is an island'. Nothing is created by a single person; the people who surround ~~me~~ make many things possible and ~~I~~ have profited much from experiencing the wonderful synergy of collaboration and cooperation with all individuals who have contributed to my present and future learning curve.

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Appendix 1

Letter seeking consent to conduct study

22 April 2009

Ng Kum Loy,
Charles University in Prague,
Czech Republic.

Mr Lubomir Kurz,
President,
Special Olympics Czech Republic.

Dear Sir,
Request for permission to conduct a study on Special Olympics Coaches: their perspectives on Risk Factors and Safety

Special Olympics coaches are very a unique and special type of coaches: they are vital for the success of the Special Olympics movement and providing opportunities for empowering SO athletes to believe that they can do many things successfully.

2.0 Safety of SO athletes is an important aspect of SO; the SO coaches' skills and knowledge in this aspect have made Special Olympics activities so successful.

2.1 This study will focus on SO coaches' perspectives on risk factors and safety.

2.2 The instruments to be used for this study will be; (a) a questionnaire and (b) a short interview which will be taped. Both the questionnaire and interview will be conducted either in English or in the Czech language. The total amount of time taken per respondent will be less than 45 minutes.

2.3 For this study, six respondents will be needed for the following purposes: 2 respondents to help improve the instrument and the remaining 4 will be the actual respondents to the study.

2.4 The contribution by the respondents will be invaluable to improve the safety measures being undertaken by SO coaches.

2.5 This study is unique and its findings could be quoted by other Special Olympics programme thus giving credit and recognition to Special Olympics Czech Republic and her coaches.

3.0 Confidentiality of the respondents will be kept and their names are only known to the researcher. The report of this study shall not contain any material or issues that will taint the good image and respected name of the organization, Special Olympics Czech Republic.

4.0 If permission is granted to conduct this study, a schedule that is mutually agreeable could be worked out for the administration of the data collecting instruments.

Your full support, and support from coaches of Special Olympics Czech Republic, is vital for this study to be carried out successfully.

Thanking you and Special Olympics Czech Republic in advance.

"Let me win. But if I cannot win, let me be brave in the attempt."

Yours sincerely,

Ng Kum Loy
Erasmus Mundus SEN Cohort 4,
Charles University in Prague

cc: 1) Professor Marie Černá

2) Doc.PhDr.Jan Šiška,PhD Jan Šiška,
Pro Dean of Faculty of Pedagogy,
Charles University in Prague.
(Supervisor of this study)

Appendix 2a

Transcript of interview with R1, R2, R3 and R4

Transcript for R1

Before because they methodical try everything before hand she said it really looked funny that they practise such an easy step or easy thing but it actually paid back several times to them already. Because, once for example with the bench, once they tried to walk over the bench they themselves may find out that some screws need to be more fastened or it is kind of the wrong position and it is slippery or something. So if they do it themselves then they can prevent something that could happen to the first client who would do the exercise.

R2 mentioned the processal/procedural steps they take when an injury happens that they have to call the parents first as well not only contact the doctor or do the first aid themselves. Maybe if it just only just a scratched knee still it is necessary to talk to the parents so everybody is informed and everybody has the kind of comfort of communication.

R1 just finished her university where she had some theoretical subject aimed on health, first aid and safety.

It is good his skills and experiences is good for her because before they do some practice he may say well "Watch out this may happen" like if we do something so get ready in case this happen. We Do this and that. Because he has got eperience from football where there is plenty injury. So he knows if you fall down what can happen, what steps to take. So he tells her before they start the activity to realise, so they both know if something happens they both know what to do first.

Transcript for R2

I have been working here for only 4 months so I have not so much experience I have not special education in this programme. But I was working with problematic children 3 years ago so I have some experience from my work before I began to work here. Problematic children it was open club for children from 6 to 11 had not handicap something children who was spending most of their time on the street and

children have no time, the parents were not spending time with their children, working or drinking alcohol.

So I follow usual recommending for safe work, from my life, because I have two children some thing from Ivan. It is usual, usual, own experiences and I know from, common sense. No training yet. For me it is very important that I see that the people are satisfied I think that it help them for his house, they are happy they can swim It is opportunity for them to do something new, something interesting. I don't follow some special (programme). It is not for me it is important if they succeed in some special competition. For me it is important that they are happy, satisfied.
Safety and risk management is important, maybe new experience but not so important. I open to new experience yes. If I want to be involved in sports, safety is important: training for safety and risk management is very important, some regular, it is important because I must think for myself, I do not want some problems with the parents. Of course the people I do not want some problem, that I cause something bad.

At first we, the first thing important is to first help, then if it is something worse it is necessary to call the doctor, medical help, necessary to inform the parents if something happens. It is usual way how the work to do. It is important that the coach is not alone with the people, some of us can stay with the rest of the people and one of us can be with the client who has problem. So it is important to work in two people. Because if something happen, one of us can stay with the athletes and the other look for help.

My special experiences with my own children, very usual information you know, I don't have some special training. But during your life you have small training, where you always recommend how to behave when something happen to the children. I was spending a lot of time with working children camps we were always every weekend special information what to do when something happen. Children camp is normal children you know, I have small children. Sometimes help in the camp, I work as a volunteer I work with handicap children. During my life I try a lot of things help and work, it was for example special with my work, for example during holiday,

helping with children camp, short, short jobs for example and I take my children with me and I spend the time with them.

Transcript for R3

So the steps are: the first when an injury happens the first step is to find out what actually happened, what range of injury it is, how serious it is and then, if we can do something about it ourselves to provide first aid, what we do and if we find out it is necessary to call an ambulance or contact the medical consultancy, this is what we do right after.

But another thing I want to point out is what we both of us me and R1 at any time we want to put a new exercise or something new into our practice. What we do first is that we try it ourselves, so we do it before the clients, without the clients first and to find out if it is not too hard, too difficult if there are some obstacles that could come out from our idea. If anything is not slippery or wet you know. So the aim is that we want to prevent the injury as deeply as much as we can.

And we realised that we have certain clients with certain needs like for example, client with epilepsia we know that we have to be cautious because anything can happen like in any moment. So we do all the pre-steps to avoid anything.

If we get back to the practice today what they did, like walking over the bench for example this is nothing easy. They took a long time before they actually got used to it before they reached this level because the clients they are afraid of height or they are afraid of space in general and the coordination of the movement is really hard normally. So they have to take precautions in terms of like say if you have an open window closes with the wind, then the client can get stressed and fall down. So all these things that could scare them, they have taken into consideration before they start the practice.

Two cases that happened during his practice. Both of the clients he mentioned were epileptics so she had a little accident and fell down but there was no serious injury, just scratches. And the second one happened previously, a man client practicing swimming and he was like a big guy over 100 kilo. and he had his epileptic attack in

the water so he said it was a little hard to push him out of the water and make sure he was safe. But they managed. That were the only two cases that they had had during their coaching practice.
As for the special risk management education, I had gone through 2 workshops in Olomouc it was like 3-days educational session. Because I have been working with SO for 14 years already. It gave us some know-how some experience but it is not the main thing for me because I have worked with Soccer (football) all my life, 2 times every year we have some sessions that was aimed at safety as well.

And lately what we did is that we took half a year lasting like first aid or health management course so we do have skills how to apply first aid. What I do with R1 is that every week if we have spare time, as long as two hours, practising first aid skills with some clients as the situation requires. We learn from each other. So they actually teach each other like the practice versus some knowledge.

Transcript for R4

Of course the most important is to distinguish what type of injury it is, what level of injury. So it depends, if it is something that can be treated by first aid this is what we do because we are trained and skilled in first aid steps. And if we find out that it is more difficult injury then the first thing is to stabilise the client, stabilise the patient and then call professional help, call medical service.

So for example in my sport in the floor hockey, like muscles suffer a lot. So what happens that sometimes a muscles is pulled or something happen to the muscle.
And it is painful causes pain to the athlete it may be a slight distortion it may be pulled muscle something. This is something we can treat ourselves either me or me and my assistant things we can do is like stretch, or eventually some a pain-killer shot that we can do to reduce the pain level so the athlete can play again or relief the pain.

There is another case in Nagano (SO World Winter Games, Japan, 2007) where during the game one player was like hit over the barrier, over the border of the board. But they just gave him some pain-killer shot and he was feeling okay So he kept playing but only in the end of the day, and at night they found out that his ribs

were not totally broken, kind of half broken so they had to bring him to the hospital and treat like that. During the game he was feeling ready to play so he finished the game. But the pain came over much later. This was another case where they had to seek medical help.

So they were discussing that of course the injury happen that is sport but the main thing is to be ready for it and to first to take steps, like before hand, then if injury happen to be able provide the first aid and then if not seek medical help as quick as we can as quick as we can. This is all basically we can do. And of course team sport and contact sport is a big risk danger always, in any case.

So during the course of my practice I have had several options to learn about the safety because First already at school since I was a school boy, I learned about first aid as all school kids do. But then I was working as a teacher, so as a professional teacher they make you always to have some background for physical education. And of course every teacher has to have a background for first aid so there was a workshop on that at the regular school.

And then when I started working with the SO because SO organisation has a big interest in educating their coaches On the safety and preventing risk and on risk management this was another suggestion where I have extra education.

So what I mentioned before was general education on risk management. But as well because I am focused specific when I was coaching Volleyball I had certain level of coaching license and part of the education of coaches was the managing of injuries in the specific sport so this is like a built-up thing And as well for SO the SO does either the general safety and risk management a general safety and risk management and as well once you are focused on your sport then there is special workshop like what specific risk come out from the specific sport
you are coaching. This is what I went through as well.

Still what I think that the theory gives you a lot but the practice is the best teacher. Because once you have your experience you can Better prevent what could eventually happen And from your own experience you can foretell what risks could

come out and once we know we tend to teach it to our younger coaches. They have a practical education as well not only theory and workshops.

Appendix 2b

Transcript for Policy-maker

Question 1:

2 times every year we regularly organise a tuition or a session, educational sessions for coaches. And part of this workshop is a 4-hour tuition which is focused on risk management and, safety and first aid.

Question 2

We do have like internal materials, educational materials because we cooperate with the University of Palacky in Olomouc. So we have a booklet to teach from or to use like methodics which we make in cooperation with this University. And as a part of the workshop as a final exam for all those all those who participate we do have a feedback that they actually went through the risk education so we have something like control.

Question 3

So I have no experience all my life with complaints about something that would happen during the practice. So it never happened. But we had an injury during the competition once. So in during the one injury that happened it was cycle race, it was teeth like broken teeth but they have taken all the steps requirement like in cooperative club has a health insurance so all went through like procedural steps but there was no complaint involved, it was just sorted out as it should be, it happened but no complaints.

Question 4 (Improve on this: take a theoretical situation)

We will assume to have complaint. What we will make in this case. First we have to make some inquirement about the situation, if it is some mistake from the coach and if yes we will speak to coach about the mistake and about and how to do best the training and the risk management. How to improve. That this case will not came in the future.

Any form to fill: it maybe for insurance. Yes we have to but we have to fill in every case if it is complaint or not.

Question 5

So whenever we organized some bigger events as in National Games, National Tournament for SO it always is a big action/activity so we have to take steps in supporting the risk management for organizing such an event. But then the cooperation has to go to a wider scale like we need to cooperate with the doctors, during the organisation with the firemen, police. So, this is what they do to make sure that the safety is as high as possible during all the events.

Risk in the activity involved?

Of course the question is the answer is of course there is always a risk of injury whatever you do. It happened once; while warming up before the practice one client she fell off the bike, the stationary bike. It was a client, a was a girl with epilepsy, they did take this kind of precautions steps like she was wearing helmet and everything but still she fell down and it happened but there was no complaint that would come from them. She was not injured she just had her knee bruised little girl but no, no nothing happened. She did not require any medical.

Anything to say:

So different for every sport you know, the comment For example, I do realise that one of the athletes turn the ball against somebody else that it might happen that Bocce which historically once without injury but the idea came through. But we cannot compare this sport for example with for example with FH that the next coach is coming afterwards. He has a lot of experiences with dealing with injury?

Appendix 2c

Correspondence from Marie Černá
(Local expert on intellectual disability)

1) WHAT CAN COACHES DO TO ENSURE THAT ATHLETES LEARN TO RECOGNIZE AND TAKE EVASIVE ACTIONS WHEN THEY MEET RISK FACTORS?

2) PRACTICAL SUGGEESTIONS FOR COACHES ON HOW TO TEACH SAFETY TO THE ATHLETES.

Coaches working with athletes with intellectual disability need to consider many factors. This is important both for training periods (lessons), and for competitions. Regular trainings are focused on one or more sports, and safety issues should be integral part of the respective sport activity. However, new factors accrue during competitions, which are consequential with unknown environment, new groups of incomprehensible people, and especially when competitions take place in a foreign country. The work of coaches is non-substitutable not only because of trained sports disciplines but also because of health and safety issues of the athletes.

Working with people with intellectual disability the coaches should know personal characteristics of all the members of their group, and use this knowledge to prepare individual training programs for everybody that contains also safety and risk issues. Only on full recognition of various exceptionalities of people with intellectual disability in general, and based on individual characteristics, they can make the athletes acquainted with risk and safety factors. Many of people with intellectual disability may not differ correctly being at high risk during sport activity due to various factors. One of those is high motivation that could prevent an individual of taking suitable care of him/herself because of being extremely involved in his/her power. The other is lack of experiences, inclination to risk and hitch wagon to sport activity. The last ones are limitations connected with intellectual disability which the coaches should know, and especially individual limitations of perception, thinking, memory, sighting, concentration, etc. – all the psychic processes – as well as individual specialities in sensorial perception. (The example

can be unrecognized ocular and visual defects which could cause incorrect visual distance acuity, and/or different hearing disorders which could cause refusing instructions.)

As soon as the coaches are acquainted with the respective special characteristics they can start with teaching athletes to respect safety, to recognize risk factors and to keep aloof from them. The teaching should be concrete as much as possible, and it should include also demonstration of what could happen if the athletes do not take care of their safety. All the instructions given to the athletes should be simple and intelligible for everybody. After „safety lessons" the coaches should ensure themselves that the athletes understood and perceived everything what they were taught, and are able to make use of instructions during sports activity, even use them in new unpredictable situations. The evaluation of this can be done again in a concrete situation.

It is difficult to give coaches practical suggestions how to teach safety, because of great variety of different sports disciplines, different environments for training lessons, different groups of athletes, and last but not least of great diversity of the athletes (divergences in age, gender, level of cognitive functioning, physical exceptionalities, previous experiences, etc.) Some general issues are included above.

The following are selected general points which are well known as safety issues of sports activities, and could be applied to Special Olympics policy:

A) During training lessons:

* permanent presence of a coach or his/her deputy
* maintenance of discipline and health issues
* conservancy
* appropriate clothing and shoes
* keep drinking regime
* not training immediately after eating
* simple instructions

* healthy environment
* avoiding inadequate requirements

B) During competitions the above mentioned should be respected and in addition to them:

* sufficient number of coaches and instructors for each discipline
* acquaintance of environment
* presence of health workers and/or medics
* courtesy to others especially when having a group of athletes
* elimination of health hazard manners

Roswal, G.M.
Email correspondence: Thursday, January 29, 2009

My colleague Dr. Damentko asked me to reply to your email. Although Dr. Damentko and I have written several articles on Special Olympics, none are related to safety and risk management.

Attached is a recent version of the annotated bibliography, "Special Olympics Completed Research Bibliography." You may already have this review from Dr. Valkova.

I suggest you contact Darcie Mersereau (dmersereau@specialolympics.org) at Special Olympics headquarters in Washington, DC USA. Darcie may be able to direct you to specific Special Olympics documents regarding safety and risk management.

Good luck with your research.
--
Glenn M. Roswal, Ph.D.
Professor
College of Education and Professional Studies
Jacksonville State University
Jacksonville, Alabama USA 36265
groswal@jsu.edu

Appendix 4

Responses to self-administered questionnaire

	Respondents					
	R1	R2	R3	R4	R5	R6
Issue 1 and risk factors						
a	4	5	4	5	5	5
b	1	2	2	3	2	4
c	3	3	3	3	3	4
d	4	4	4	4	4	5
e	4	4	4	5	4	5
f	4	4	4	4	4	4
Issue 2 and risk factors						
a	4	4	4	5	4	5
b	4	4	4	5	4	5
c	4	4	4	5	4	4
d	4	4	4	5	4	5
e	5	4	5	4	4	5
Issue 3 and risk factors						
a	4	4	4	4	4	4
b	4	4	4	4	4	4
c	4	4	4	5	4	5
d	4	4	4	5	2	5
e	4	3	4	4	4	5
f	4	4	4	4	4	4
g	4	4	4	4	4	5
h	4	4	4	5	4	5
i	4	4	4	4	4	5
Issue 4 and risk factors						
a	4	5	4	4	5	5
b	4	5	4	4	5	5
c	4	5	4	5	5	5
d	4	5	4	5	5	5
e	4	5	4	5	5	5
f	4	4	4	4	5	5
g	4	4	4	3	2	5
Issue 5 and risk factors						
a	4	5	4	5	5	5
b	4	5	4	5	5	5

c	4	4	4	4	4	4
d	4	4	4	4	4	4
e	4	5	4	4	5	4
f	4	4	4	4	4	4
g	4	4	4	3	5	4
Issue 6 and risk factors						
a	4	4	4	4	5	5
b	4	5	4	4	5	5
c	4	4	4	5	5	5
d	4	4	4	5	5	5
e	4	4	4	4	5	5
f	4	3	4	4	5	3
g	4	4	4	5	5	5
h	4	4	4	5	5	5
i	4	5	4	5	5	5
j	4	3	4	3	5	5
k	4	4	4	5	5	5
l	3	4	3	5	4	5
m	4	4	4	5	4	5
n	4	4	4	4	4	4
o	4	5	4	5	5	4
p	4	5	4	5	5	5
q	4	4	4	5	4	5
r	3	2	2	2	2	2
s	4	4	5	4	5	5
Issue 7 and risk factors						
a	4	3	4	3	4	3
b	3	4	3	4	4	4
c	4	4	4	5	4	5
d	4	4	4	5	4	5

Legend:

5 = Strongly agree; 4 = Agree; 3 = Neither agree nor disagree;

2 = Disagree; 1 = Strongly disagree

Education and Culture

Erasmus Mundus

This questionnaire is part of the Erasmus Mundus Masters In Special Education Needs (SEN) at Charles University and Special Olympics sports coaches are invited to participate.

Dear Colleagues,

Title of Study: SO coaches' perception of Risk Factors and Safety in Special Olympics sports training

Name of Supervisor: Doc.PhDr.Jan Šiška,PhD., Pro Dean, Pedagogical Faculty, Charles University

Thank you for volunteering to take part in this study. This study is to investigate the way Special Olympics coaches plan and execute their training sessions: we will concentrate on matters related to safety of our athletes. This is one aspect that SO coaches do so well. All questions refer to your regular training sessions.

Your answers will be treated with the strictest confidentiality and will be used solely for the purpose of this study. Please do not write your name on the questionnaire.

If there is any question that is not clear to you, do not hesitate to seek clarification.

Please answer the following questions as best as you can as your answers will be invaluable to the success of this study.

Thank you
Ng Kum Loy
May 2009

Section A: Demographic Data

Please complete the following **personal information** by placing a mark (√) in the space provided or by filling in the blank or circle the relevant answer(s).

1. Gender: Male [ ] Female [ ]

2. Age : ..... years

3. Years of sports coaching in Special Olympics: _____years

4. Name the sport(s) you coach (please write):
   - .....
   - .....
   - .....
   - .....

5. Type of sports coaching certificate you possess (tick √ where appropriate):
   - None [ ]
   - Special Olympics ☐
   - National Sports Governing Bodies ☐

6. Average hours a week spent on coaching Special Olympics athletes: .....hours

Section B

Please take note of the following definitions:

risk factors = any factors which may increase the potential for sports injury

sports injury = any tissue damage observed by a professional healthcare provider, sustained while participating in a sports related activity. The injury will reduce the intensity of the activity or needs medical attention or advice.

Please remember to place a mark (√) in the space that most closely corresponds to your perception. The rating scale is:
1 = Agree strongly
2 = Agree
3 = Neither agree nor disagree
4 = Disagree
5 = Disagree strongly

"**Others**": this space is for you to suggest alternative answers and to rate them too.

Item 1: Your general safety plan when conducting sports training.

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
a	I plan for the safety of my athletes when I conduct my training.					
b	I write down this safety plan.					
c	My safety plan will have to be more detailed as my athletes have lower cognitive ability.					
d	There is a high coach-athlete ratio.					
e	Every personnel involved in the training will be given a safety plan.					
f	I always have a back-up plan.					
g	Others:					
h	Others:					

Item 2 to Item 6 are about risk factor issues. Each risk factor issue will be followed by risk factors associated with the issue.

Item 2: Field of Play as a risk factor issue

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
I do the following when I conduct my training:						
a	Check the playing surface for unevenness.					
b	Ensure that the surface for activity is clean, safe and dry.					
c	Ensure that all boundaries for activity are clearly marked.					
d	Check that the immediate area surrounding the playing surface is clear of obstructions.					
e	If the training is held indoor, ensure that there is proper ventilation and lighting.					
f	Others:					
g	Others:					

Item 3: Facilities and Venue as a Risk Factor issue

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
I ensure the following:						
a	There is a proper changing area for male and female athletes.					
b	There is proper storage area for athletes' personal belongings.					
c	There is easy access to toilets.					
d	Know where the emergency exits are (indoor training facility).					
e	Check the access to a working telephone.					
f	Place for training is easily accessible by athletes.					
g	Check that the place of activity is accessible by an ambulance.					
h	Check out the rules and regulations on the use of the venue for activity.					
i	There is a suitable first-aid treatment area.					
j	Others:					
k	Others:					

Item 4: Sports Equipment as a Risk Factor issue

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
I have to ensure the following:						
a	Equipment used for the activity is sufficient in number and well-maintained.					
b	The equipment used fits the athletes properly.					
c	The equipment used is appropriate for the athlete.					
d	The athletes are taught the proper use of the equipment.					
e	The proper use of the equipment is enforced during the training.					
f	Athletes are appropriately attired.					
g	The warranty of the equipment is checked.					
h	Others:					
i	Others:					

Item 5: Appropriate assessment of athletes' readiness as a Risk Factor issue

No	Items	Agree strongly	Agree	Neither agree no disagree	Disagree	Disagree strongly
		1	2	3	4	5
My perception of the following:						
a	Check the medical history of the athletes.					
b	Check report on physical ability of athletes.					
c	Aware of motivation and interest of athletes.					
d	Aware of social skills of athletes.					
e	Match the event with the ability of the athlete.					
f	Develop an individualised plan for each athlete.					
g	Keep a record of athlete's progress.					
h	Others:					
i	Others:					

Item 6: The Special Olympics Coach as a Risk Factor issue.

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
Do you consider the following will reduce risk factors?						
a	Certification in Coronary-Pulmonary Resuscitation and First-aid					
b	Coaching to prevent injuries.					
c	Have an assistant coach during the training.					
d	Distribute safety plan to all personnel involved in the training.					
e	Teach athletes to recognize risk factors.					
f	Establish routines in the training.					
g	Enforce rules and regulations of the sports.					
h	Teach proper techniques and skills.					
i	Enforce the wearing of protective equipment.					
j	Have professional qualifications in sports coaching.					
k	Aware of transmission of diseases through contact.					
l	Ensure that there is a safety policy in your organization.					

Item 6 (*continued)*:

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
m	Be knowledgeable in the activity that you are supervising.					
n	Always have a back-up plan for your activity.					
o	Be present when the athletes are on the field.					
p	Have a clear view of all athletes involved in the activity.					
q	Be able to manage aggressive behaviour.					
r	Winning a medal is most important to me.					
s	Athlete's progress is most important to me.					
t	Others:					
u	Others:					

Item 7: Parents/Guardians as a Risk Factor issue

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
In my opinion;						
a	I consider parents/guardians as a risk factor.					
b	Inputs from parents/guardians in planning the training is important.					
c	Parental/guardians' cooperation in following the coach's safety plan is important.					
d	Parental/guardian's written consent is important.					
e	Others:					
f	Others:					

Item 8: If you have risk factors not mentioned above, please put them in the table below and rate them too.

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
a						
b						
c						

No	Items	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
		1	2	3	4	5
a						
b						
c						

THANK YOU FOR YOUR PARTICIPATION

Interview Questions

(1) For Respondents (interview to be conducted immediately after answering the written questionnaire).

(a) Describe what happens when there is an injury during your training session.

(b) Describe briefly how or from where you obtained this knowledge on sports safety.

(2) President of the SO Organisation (focus on policy)

(a) How do you encourage or insist that your coaches conduct their training in a safe environment?
(b) Do you have policy on this, written or otherwise?
(c) Has there been any serious complaint about coaches when an accident happened? What is the nature of the complaint?
(d) What actions are taken when there is complaint of this nature?
(e) What are your plans that will make SO sports activities more safe?
(f) Any other comments on safety in sport training?

(3) Professor Marie Cerna (expert in intellectual disabilities)

(a) What can coaches do to ensure that athletes learn to recognize and take evasive actions when they meet risk factors?
(b) Practical suggestions for coaches on how to teach safety to the athletes.

THANK YOU FOR YOUR PARTICIPATION

Appendix 5b

Questionnaire in Czech

Education and Culture

Erasmus Mundus

pedagogika na Karlově univerzitě a je určen respondentům z řad trenérů sportů, jež se provozují na Speciálních olympijských hrách.

Vážení kolegové,

Název práce: Vnímání rizikových faktorů a bezpečnosti ve sportovní přípravě očima trenérů Speciálních Olympiád (SO)

Školitel: Doc.PhDr.Jan Šiška,PhD., proděkan Pedagogické fakulty Karlovy Univerzity

Děkuji Vám za účast na této studii. Jejím cílem je zkoumat způsoby, kterými trenéři SO plánují a vedou tréninky svých svěřenců: zaměříme se na záležitosti, týkající se bezpečnosti sportovců. To je totiž aspekt, ve kterém si trenéři SO vedou výborně. Všechny položky dotazníku se týkají vašich běžných pravidelných tréninků.

S vašimi odpověďmi bude nakládáno s nejvyšší mírou důvěrnosti a budou použity výhradně pro účel vzniku této studie. Neuvádějte do dotazníku své jméno, prosím.

Pokud vám znění některých otázek bude nejasné, požádejte, prosím, o vysvětlení.

Odpovídejte, prosím, na následující otázky jak nejlépe budete moci, neboť pro zdárný vznik této studie jsou pro nás vaše informace neocenitelné.

Děkuji,

Ng Kum Loy
květen 2009

Část A: Osobní údaje

Při vyplňování následujících **osobních informací** prosím: zaškrtněte dané políčko (√), doplňte chybějící údaj či zakroužkujte vhodnou odpověď (vhodné odpovědi).

1. Pohlaví: Muž ☐ Žena ☐
2. Věk : ..... let
3. Kolik let trénujete sportovce na SO? _____let
4. Které sporty trénujete? (vypište, prosím):
   - .....
   - .....
   - .....
   - .....
5. Jaký typ trenérského oprávnění vlastníte? (zaškrtněte vhodnou odpověď- √) :
   - Žádné ☐
   - Trenérské oprávnění pro SO ☐
   - Trenérská licence příslušného sportovního svazu ☐
6. Průměrný počet hodin, který týdně strávíte trénováním sportovců na SOH: .....hodin

Část B:

Povšimněte si, prosím, následujících definic:

> **rizikové faktory** = veškeré faktory, které by mohly zvýšit pravděpodobnost zranění při sportu
> **sportovní úraz** = jakékoliv poškození tkáně, diagnostikované profesionálním zdravotníkem, ke kterému došlo při účasti na sportovní aktivitě. Zranění omezuje sportovce v další činnosti nebo vyžaduje lékařskou péči či konzultaci.

Zaškrtněte (√) políčko, které nejblíže vystihuje váš postoj.

Hodnotící škála:

1 = Důrazně souhlasím
2 = Souhlasím
3 = Ani souhlas ani nesouhlas
4 = Nesouhlasím
5 = Důrazně nesouhlasím

Kolonky **"Další"** jsou vám k dispozici, budete-li chtít formulovat a ohodnotit jiná, alternativní tvrzení.

Odstavec 1: Váš obecný bezpečnostní plán při vedení tréninku.

	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasím
		1	2	3	4	5
a	Když vedu trénink, beru do úvahy bezpečnost sportovců.					
b	Mám napsaný bezpečnostní plán.					
c	Můj bezpečnostní plán bude muset být detailnější, protože moji sportovci mají snížené kognitivní schopnosti.					
d	Poměr počtu trenérů na počet sportovců je adekvátní.					
e	Každý člen personálu, který je zahrnut do tréninku, bude seznámen s bezpečnostním					

Odstavce 2 – 6 se týkají problematiky rizikových faktorů. Ke každé rizikové situaci budu uvádět další přidružené rizikové prvky

Odstavec 2: Herní terén jakožto rizikový faktor

No	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasím
		1	2	3	4	5
Když vedu trénink, dělám následující:						
a	Zkontroluji, zda na herní ploše nejsou terénní nerovnosti.					
b	Zkontroluji, že plocha, kterou pro sportovní aktivity hodlám využít, je čistá, bezpečná a suchá.					
c	Zkontroluji, že veškeré hranice tréninkové plochy jsou jasně označeny.					
d	Zkontroluji, že v bezprostředním okolí herní plochy nejsou žádné překážky.					
e	Probíhá-li trénink uvnitř, zkontroluji, že místnost je dostatečně osvětlena a odvětrávána.					
f	Další:					
g	Další:					

	plánem.					
f	Vždycky mám záložní plán.					
g	Další:					
h	Další:					

Odstavec 3: Zařízení, vybavení a sportoviště jakožto rizikové faktory

No	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasím
		1	2	3	4	5
Zabezpečuji následující:						
a	Jsou k dispozici adekvátní převlékárny pro sportovce a sportovkyně.					
b	Jsou k dispozici adekvátní úložné prostory na osobní věci sportovců.					
c	Toalety jsou snadno přístupné.					
d	Vím, kde jsou nouzové východy (v případě halové sportovní aktivity).					
e	Zkontroluji přístup k funkčnímu telefonu.					
f	Sportoviště je pro sportovce snadno přístupné.					
g	Na sportoviště je umožněn příjezd sanitce.					
h	Zkontroluji předpisy a pravidla z pohledu vhodnosti sportoviště pro danou sportovní aktivitu.					
i	Je k dispozici prostor, vhodný pro poskytnutí první pomoci.					
j	Další:					
k	Další:					

Odstavec 4: Sportovní vybavení jakožto rizikový faktor

No	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasí
		1	2	3	4	5
	Musím zajistit následující:					
a	Vybavení, které používáme pro sportovní aktivity, je dobře udržované a je ho dostatek.					
b	Vybavení, které používáme pro sportovní aktivity, dobře padne mým svěřencům.					
c	Vybavení, které používáme pro sportovní aktivity, je pro mé svěřence vhodné.					
d	Učíme spoprtovce, jak správně používat dané sportovní vybavení.					
e	Od sportovců se během tréninku vyžaduje dodržování správných zásad používání daného sportovního vybavení.					
f	Sportovci jsou vhodně oblečeni.					
g	Záruční doba sportovních pomůcek je kotrolována.					
h	Další:					
i	Další:					

Odstavec 5: Správné rozhodnutí opravenosti sportovce jakožto rizikový faktor

No	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasím
		1	2	3	4	5
	Mé postřehy k následujícímu:					
a	Zkontrolovat zdravotní historii sportovců.					
b	Zkontrolovat lékařské zprávy, hodnotící fyzické schopnosti sportovců.					
c	Mít povědomí o motivaci a zájmech sportovců.					
d	Mít povědomí o sociálních dovednostech sportovců.					
e	Vhodně propojit danou sportovní aktivitu se schopnostmi sportovce.					
f	Utvářet individualizovaný plán pro každého sportovce.					
g	Vést evidenci pokroku sportovců.					
h	Další:					
i	Další:					

Odstavec 6: Trenér Speciálních Olympiád jakožto rizikový faktor

No	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasím
		1	2	3	4	5
Domníváte se, že následující tvrzení mohou snížit riziko zranění?						
a	Proškolení (a osvědčení) v koronárně-plicním oživování a v První pomoci.					
b	Trénovat tak, aby se předcházelo zraněním.					
c	Mít v průběhu tréninku k dispozici asistenta.					
d	Seznámit všechny členy personálu, kteří budou zahrnuti v tréninku, s bezpečnostním plánem.					
e	Naučit sportovce rozeznávat, které faktory jsou rizikové.					
f	Vnést do tréninku rutinu.					
g	Uplatňovat a vymáhat dodržování předpisů a pravidel v jednotlivých sportech.					
h	Učit sportovce správným technikám a dovednostem.					
i	Vyžadovat nošení ochranného vybavení.					
j	Mít odbornou trenérskou kvalifikaci.					
k	Mít povědomí o nemocech, přenášených běžným kontaktem.					

Odstavec 6 (pokračování):

No	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasím
		1	2	3	4	5
l	Zajistit zavedení a uplatňování bezpečnostních postupů ve vaší organizaci.					
m	Být dobře informovaný o aktivitě, na kterou dohlížíte.					
n	Vždy mít pro své činnosti záložní plán.					
o	Být vždy u toho, když jsou sportovci na hřišti.					
p	Mít jasný přehled o všech sportovcích, kteří jsou právě zapojeni do sportovní aktivity.					
q	Být schopen zvládat agresivní chování.					
r	Nejdůležitější pro mne je vyhrát medaili.					
s	Nejdůležitější pro mě je vývoj sportovce.					
t	Další:					
u	Další:					

Odstavec 7: Rodiče / Opatrovníci jakožto rizikový faktor

	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasím
		1	2	3	4	5
Podle mého názoru:						
a	Považuji rodiče / opatrovníky za rizikový prvek.					
b	Přínos rodičů / opatrovníků je důležitý.					
c	Spolupráce rodičů / opatrovníků s trenérem v oblasti dodržování bezpečnostního plánu je důležitá.					
d	Písemný souhlas rodičů / opatrovníků je důležitý.					
e	Další:					
f	Další:					

<u>Odstavec 8</u>: Existují-li nějaké rizikové faktory, které jsme výše nezmínili, uveďte je, prosím, do kolonek a umístěte je do škály.

	Tvrzení	Důrazně souhlasí	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasí
		1	2	3	4	5
a						
b						
c						

	Tvrzení	Důrazně souhlasím	Souhlasím	Ani souhlas ani nesouhlas	Nesouhlasím	Důrazně nesouhlasí
		1	2	3	4	5
a						
b						
c						

DĚKUJI VÁM ZA ÚČAST A VÁŠ ČAS !

Otázky k rozhovoru:

(1) Pro respondenty z řad trenérů SO (rozhovor bude následovat okamžitě po vyplnění dotazníků:

(a) Popište, co se děje, když v průběhu vaší tréninkové jednotky dojde k úrazu:

(b) Stručne popište, kde jste získali své informace z oblasti bezpečnosti při sportu:

(2) President of the SO Organisation (focus on policy)

(a) How do you encourage or insist that your coaches conduct their training in a safe environment?
(b) Do you have policy on this, written or otherwise?
(c) Has there been any serious complaint about coaches when an accident happened? What is the nature of the complaint?
(d) What actions are taken when there is complaint of this nature?
(e) What are your plans that will make SO sports activities more safe?
(f) Any other comments on safety in sport training?

(3) Professor Marie Cerna (expert in intellectual disabilities)

(a) What can coaches do to ensure that athletes learn to recognize and take evasive actions when they meet risk factors?
(b) Practical suggestions for coaches on how to teach safety to the athletes.

THANK YOU FOR YOUR PARTICIPATION